From: BRIAN CHAMBERS
Sent: Monday, May 23, 2022 6:41 PM
To: Lenart, Brett <BLenart@a2gov.org>; Planning <Planning@a2gov.org>; Disch, Lisa <LDisch@a2gov.org>
Subject: Articles on Zoning Reform and Removing Parking Minimums, Establishing Maximums

Brett and Planning Commission:

Since you've already moved forward on these initiatives, it may be moot, but I thought I'd provide some good references on these topics.

For zoning reform and the communications around the initiative, there is this article:

https://www.westernplanner.org/2021/2021/8/19/overcoming-objections-to-zoning-reform-a-primer-for-planners

Parking Maximums -
I have yet to find any research that shows how the maximums being proposed will foster a 50% reduction in vehicle miles traveled in the City, per our A2Zero plan. Also, I did not see any other research provided for establishing such high thresholds for parking.

I heard the discussion that the maximums proposed were such that they'd be too expensive to implement (which may be true). However, such a high maximum negates the point of having a maximum standard.

This site provides examples on Parking Maximums around the US for cities with sustainability objectives:

https://sustainablecitycode.org/brief/parking-maximums-8/

For removing parking minimums and establishing maximums there are these attached articles.

1. **Minus Minimums - Development Response to the Removal of Minimum Parking Requirements in Buffalo** (NY) - 2021 - Journal of American Planning Association
    - This is probably the most interesting, as it compares Buffalo NY development project in the period before the removed minimum parking requirements, to the period following the removal. Off-street parking in the later projects was overall 20% lower than before, especially for mixed use projects (~50% lower). Residential off street parking, however, increased by 17%.
2. **Association of Bay Area Governments - Parking Policy Playbook - 2021 10-20**
    - Parking Maximum policy recommendations are on pages 12 - 15. This is a good review of the policy purpose of parking maximums.

3. These articles are by Donald Shoup, Distinguished Research Professor of Urban Planning in UCLA's Luskin School of Public Affairs

    - **The Pseudoscience of Parking Requirements** - Zoning-Practice-2020-02 - American Planning Association, by Donald Shoup
    - **Cutting the Cost of Parking Requirements** - 2016 by Donald Shoup (book chapter)
    - **Putting-a-Cap-on-Parking-Requirements** - 2015 - American Planning Association, by Donald Shoup

        - This article estimated that a parking metric of 4 spaces / 1,000 square feet for a shopping center increases the cost of the shopping center by 93 percent if the parking is underground, and by 67 percent if the parking is in an above ground structure.

I hope this helps, in case further consideration needs to be provided to Council.

Brian

ABAG-MTC Local Parking Policy Technical Assistance

PARKING POLICY PLAYBOOK

FINAL

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Appendices

1 INTRODUCTION

Parking is a potent tool for supporting climate, housing affordability, and community design goals. The stakes are high. Urgency around climate change and a willingness to weigh policy solutions has never been greater. Escalating housing affordability problems are multifaceted – but parking offers one significant policy lever to help address the regional housing crisis. Parking policy changes can be difficult to discuss, engage, and act on, as parking provision and management can seem both esoteric and challenging to some bystanders because of the longstanding assumption of planning our towns and cities around driving and vehicle ownership. Indeed, part of the challenge and promise of parking policy is that the practice boldly addresses the role of cars in our society head-on in a way many projects avoid.

Momentum to rethink parking is gaining. While on-street pricing changes became more widely adopted within the last decade, off-street parking policy changes (arguably most critical for climate and affordability goals) have lagged. However, an uptick in parking policy changes across the country and region has occurred in recent years.

Outdated or little-known parking provisions of a county or city's municipal or zoning code can often inhibit desired developments and infrastructure, hinder equitable growth, and increase VMT and traffic. And while many local governments understand that their parking policies can impact the achievement of their housing and economic development, affordability, connectivity, and other key goals, there is still a need for assistance to overcome resource and awareness barriers and implement policy change. The task of parking policy change is critical, and this document is aimed at directly supporting practitioners embarking on this important work.

WHAT IS THE PARKING POLICY PLAYBOOK?

The Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG) created this Parking Policy Playbook to assist local jurisdiction staff with updating existing parking policies. The Playbook pairs policies with strategies that make the most sense for the community and provides learnings and best practices from peer jurisdictions. The goal is to provide the knowledge and collateral needed to update parking policies, engage with constituents, and address potential concerns that may arise.

HOW TO USE THE PLAYBOOK

The Playbook provides easy-to-use, action-oriented tools that city and county staff can use to revise or develop new parking policies. The Playbook consists of two main components:

- **Policy Briefs (Ch. 2).** Detailed guidance on how to implement the most universal and prominent parking policy changes.
- **Additional Implementation Guidance (Ch. 3).** Practical tools and advice on how to think about implementing parking policy changes.
- **Appendices.** There are four appendices including sample policy code language; sample staff reports & council resolutions; a parking policy fact sheet template; and a parking policy database. The policy code language, staff reports, and council resolutions are sampled from cities mentioned throughout the playbook. The fact sheet shows how policies can be conveyed in a graphic one-pager to stakeholders. The parking policy database includes detailed annotation of Bay Area cities' parking practices, such as maximum parking requirements, metered parking and pricing, and other provisions.

Staff interested in a specific policy change can refer to the corresponding policy brief in Chapter 2 for step-by-step implementation guidance, tips from parking practitioners, case studies in similar communities, as well as sample zoning code language and staff reports.

Chapter 3 summarizes lessons learned that are important to keep in mind. They are not unique to a specific parking policy but can be applied to most parking policy changes. This includes ingredients for successful implementation, communication strategy elements, and data approaches and tips.

Appendices A and B include sample policy code language, staff reports, and City Council resolutions that can be adapted for local use when adopting policies into the Municipal Code. Appendix C is an example of a one-page policy fact sheet that can be used as a template to inform the community and decisionmakers about a policy change. Appendix D describes the Parking Policy Database, an inventory of local parking policies and management approaches across different cities in the Bay Area and can be used to identify other local jurisdictions that have implemented various parking-related policies and programs.

WHO IS THE PLAYBOOK FOR?

Local staff throughout the Bay Area are increasingly aware that parking policies can help relieve and address some of the congestion, emissions, safety, affordability, and other quality of life challenges related to development and mobility. However, many planning departments lack the capacity to conduct the significant work required to update local codes and policies, including engagement with the public and decision makers to educate and address concerns around parking provision and management. To address some of these challenges, the Playbook provides easy-to-use, action-oriented guidance and resources that can help city and county staff revise or develop new policies. The Playbook covers off-street and on-street parking policies and thus is relevant to planners, managers, and staff across all departments involved in parking changes.

WHAT IS ABAG-MTC'S ROLE?

While parking policies, plans, and programs are managed locally, parking impacts a number of ABAG-MTC's goals for the region, which include reducing vehicle-related emissions, focusing development growth, and increasing affordable housing and transportation access. These and other goals guide ABAG-MTC's long-range regional planning, and as an acknowledgment of their role in achieving those goals, parking policies are included in key strategies in the most recent regional plan, Plan Bay Area 2050. Many local jurisdictions have similar priorities, but do not have the resources to update policies and programs to support and align with those goals. ABAG-MTC provides technical assistance resources, such as the Playbook, and opportunities for information exchange to help local staff and policymakers consider, develop, and implement new or revised policies and programs that better align with local contexts and priorities and with regional plans and goals.

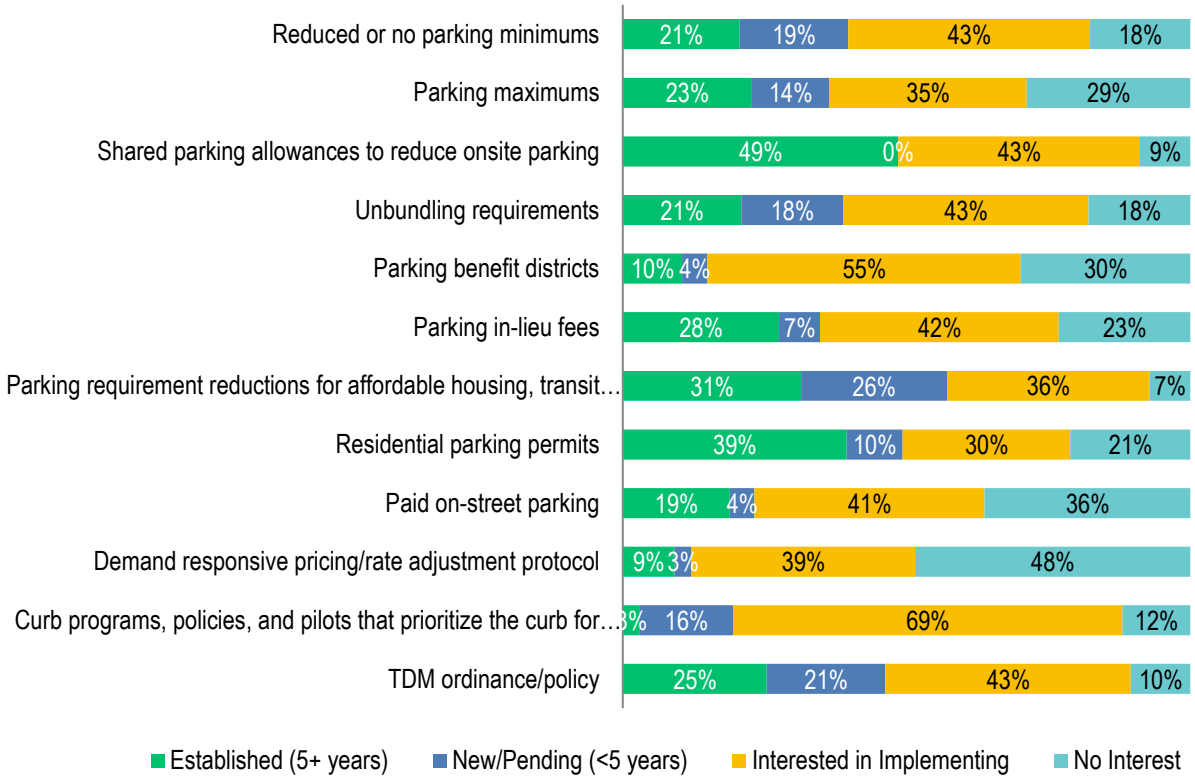
WHAT DOES PARKING LOOK LIKE IN THE BAY AREA?

Current Bay Area parking policies have had negative impacts on infill development: prioritizing limited space for private vehicles and forcing sprawled development rather than allowing them to be shared most efficiently, which adds significantly to the cost of development.

However, a number of cities have successfully implemented parking policy changes that support focused growth and sustainable transportation, while also promoting equitable access, housing, and mobility. These examples of successful reforms have created momentum – a reminder that parking policy updates are possible, if difficult, in a variety of contexts and forms.

A survey was conducted to capture Bay Area parking policymakers' experience and interest in specific parking policies, as well as to inform the development of this Playbook. As shown in the graph below, of the 53 cities that responded, many have already implemented or shown interest in key parking policy changes that are discussed in the Policy Briefs. Major barriers to implementation include a public perception of a lack of parking, concern over neighborhood spillover effects, lack of staff capacity, business owners' concerns of diminished retail competitiveness, and a public perception of (and in some cases actual) lack of travel options. This Playbook seeks to provide tools and guidance to address these barriers.

Parking Policy Experience & Interest



2 POLICY BRIEFS

The following Policy Briefs are a package of 12 parking policy changes to consider to address the housing affordability, climate, mobility, and urban design needs of different cities and counties. While not all-encompassing, these policies are both implementable and effective toward common and specific parking goals and objectives. Each Policy Brief sets the foundation for developing and implementing specific policy changes. The guidance provided combines established best practices with detailed implementation advice from parking practitioners with established best practices. Each brief is organized as follows:

- **Used For:** Reasons to implement this policy. What challenges does this policy address?
- **Strategy Overview**: High-level policy description to inform decisionmakers and the community of what the policy entails.
- **Benefits**: Potential impacts of the policy and how an updated policy can align with local priorities. How does this policy benefit the community?
- **Level of Difficulty**: The relative challenge to implement this policy. On a scale from 1 to 3, with 1 being the least challenging and 3 being the most, how challenging is it to implement this policy in comparison to the other 11 policies in this Playbook? Each policy is considered for its public consensus level, number of implementation steps, intersectional impact to other existing policies, number of decision-making stakeholders, and others.
- **Impact**: The relative impact of the policy in reducing parking demand and/or emissions. On a scale from 1 to 3, with 1 being the least effective and 3 being the most, how effective is this policy in reducing parking demand or emissions in comparison to the other 10 policies in this Playbook? In addition to parking demand reduction and emissions, other impact factors include positive impacts like improved availability of spaces, prevention of oversupply, reduction of public subsidies for parking, or improved walkability or connectivity.
- **Implementation Steps:** A step-by-step process on how to implement the policy.
- **Key Features:** Additional implementation considerations to keep in mind.
- **Pro Tips:** Lessons learned from parking practitioners.
  - Includes tips on **Coordination with Other Policies**: Other policies that can be considered in tandem to support successful implementation.
- **Case Studies:** Key takeaways from cities (primarily in the Bay Area) that have successfully implemented the policy.

For further guidance, Appendices A and B include sample policy code language, staff reports, and City Council resolutions that can be adapted for local use when adopting policies into the Municipal Code. Appendix C is one-page policy fact sheet for demand-responsive pricing that can be used as a template to inform the community and decisionmakers about a policy change. Appendix D describes the Parking Policy Database, an inventory of local parking policies and management approaches across different cities in the Bay Area.

An overview matrix of the 12 policies is provided below. The matrix summarizes each policy against key implementation factors, which include the level of difficulty, impact, and coordination with other policies.

Parking Policy Matrix

#	Policy	Description	Level of Difficulty	Impact	Coordination with Other Policies
1	Reduced Parking Minimums	Reduce or eliminate requirements for building a minimum number of parking spaces.	●●●	●●●	2, 3, 4, 6, 7, 11, 12
2	Parking Maximums	Institute a cap on the number of parking spaces that can be built.	●●●	●●●	1, 5
3	Reduced Parking for Affordable Housing	Lower or eliminate parking minimums for affordable housing developments.	●●○	●●●	1, 4, 10
4	Reduced Parking for Transit Proximity	Lower or eliminate parking minimums for developments nearby high-quality transit.	●●○	●●●	1, 3
5	Shared Parking	Allow and encourage businesses to meet minimum parking requirements by sharing parking facilities.	●○○	●●○	2, 7, 10
6	Unbundled Parking	Separate the cost of parking from rental and sale fees of residential and commercial uses.	●○○	●●●	1, 12
7	Parking In-Lieu Fees	Allow developments to pay a fee 'in-lieu' of building parking to meet minimum parking requirements.	●○○	●●○	1, 7
8	Priced Parking	Adding priced parking where it used to be free.	●●●	●●●	9, 10
9	Demand-Responsive Pricing	Price parking according to level of convenience and demand.	●●●	●●●	8, 10
10	Parking Benefit District (PBD)	Invest parking revenues into a PBD to fund streetscape, safety, and downtown TDM program.	●●○	●○○	3, 5, 8, 9
11	Curb Strategy	Prioritize curb access based on variable need.	●●○	●●○	1
12	TDM Policy for New Development	Require provision and enforcement of transportation demand management (TDM).	●●●	●●●	1

POLICY #1

Reduced Parking Minimums

Used For

- Reducing systematic overbuilding of parking.
- Avoiding unnecessary cost barriers to development, and the inflationary impacts of excess parking construction on housing and commercial-lease costs.
- Encouraging more sustainable growth and more walkable and multimodal urban design patterns.
- Supporting infill development, particularly in dense, urban areas with constrained space.

Policy Overview

Many cities require new developments to build a minimum number of parking spaces, regardless of whether they are needed or desired. Parking requirements tend to overstate demand, lead to an excessive supply of parking, increase development and housing costs, and contribute to sprawl. Eliminating minimum parking requirements does not mean that no new parking will be constructed, but rather developers will determine the appropriate level of supply based upon market demand.

Benefits

- Provides developers with flexibility to right-size parking supplies according to their own demand projections and other factors.
- Removes a key contributor to excess parking supplies, particularly in areas where walking and multimodal mobility are most viable as alternatives to driving.
- Facilitates change-of-use projects that might otherwise trigger increased parking requirements that can be difficult to meet.
- Facilitates infill projects.

Level of Difficulty: ● ● ●

Impact: ● ● ●

Implementation Steps

1. Articulate impacts of current parking standards. Lead process with solid data, including cost of unnecessary parking and data on how much less is provided when minimums are removed.
2. Communicate the true cost and negative outcomes of parking minimums (e.g., increased housing costs, sprawl) and identify specific opportunities that are hindered by parking requirements (e.g., a developer who wants to reuse a historic building, businesses that cannot expand).
3. Build community support by establishing partnerships and communicating shared goals with stakeholders.
4. If removal is not citywide, conduct a parking analysis to determine the geographic areas, land uses, and development scales that will not be subject to parking minimums.
5. Work through the draft policymaking and approval process in close concert with liaisons to elected officials to craft messaging to gain support when put forward for adoption.
6. Communicate the change and new policy to stakeholders clearly.

Key Features

- **Universal application.** Policy should be broadly implemented with exceptions where needed. Other policy features can help to reinforce effectiveness of elimination of parking minimums.
- **Parking occupancy.** Parking counts post-implementation can assuage community concerns of a lack of parking and on-street parking spillover.
- **Track results.** Documenting new development that otherwise would not have been occurred due to restrictive parking requirements helps communicate the value of further removing minimums. Developers need evidence on past successful projects with lower ratios.

Pro Tips

- Combine with parking maximums (**Policy #2**) where developers are likely to continue to oversupply projects.
- It is acceptable to begin with incremental changes to parking requirements – remove or reduce them in certain areas or for certain uses. For example, some cities start with eliminating requirements for affordable housing (**Policy #3**) or near transit-rich areas (**Policy #4**) before eventually moving on to citywide elimination. Eliminating minimums may be applied citywide but will provide the most significant benefits in areas that combine walkable densities and use mixes with robust multimodal networks.
- Combine with unbundling requirements (**Policy #6**) to further discourage parking oversupply at new developments.
- Negates the need for parking in-lieu fees (**Policy #7**).
- Complement with a comprehensive curbside management plan (**Policy #11**), including strategies for commercial, residential, and transitional streets, to address concerns about impact on nearby streets (spillover) should new development create more parking demand than it can accommodate on-site.
- Complement with TDM requirements (**Policy #12**) to further reduce on-site parking.
- Address the impact of previous minimums via code updates that allow off-site shared parking spaces to be used to help meet requirements.
- Work with the City Attorney's Office early on.
- If information is lacking, conduct an on- and off-street parking occupancy study to confirm the typical oversupply of parking and impacts on land use.
- As with many parking changes, a strong and dedicated champion has been behind most successful parking minimum removals.
- One recent Southern California policy leader found it helpful to complete a peer city evaluation to benchmark parking requirements against aspirational cities.
- A reduction in minimum parking requirements encourages affordable housing developments. While it is a concern that introducing a complete removal of minimum parking may undermine and weaken existing incentive levers for developers to build more affordable housing, there is no empirical evidence to support this trade-off.[1]

What is a Residential Parking Permit?

One way to address potential spillover from eliminating parking minimums is to create a Residential Parking Permit (RPP) program. Designated RPP zones allow residents to acquire parking permits that are exempt from regular on-street parking restrictions. While the program offers residents a more opportunity to use on-street parking spaces, they are not without few concerns.

- Ownership of permit does not guarantee the availability or a specific designation of a parking space. RPP program does not solve the core issue of demand exceeding supply.
- The more permit-holders, the less opportunity for non-permit holders to use the on-street supply.
- Pricing of permits across other cities are often too low to fully cover the administrative costs, thereby inadvertently subsidizing private parking on public right-of-way.

[1] StreetBlogCal (2021). Parking Requirements are not a useful bargaining chip for increasing affordable housing. Retrieved from: https://cal.streetsblog.org/2021/05/19/parking-requirements-are-not-a-useful-bargaining-chip-for-increasing-affordable-housing/. The author of the article summarizes the supporting and opposing voices for the Assembly Bill 1401 and makes a case that parking reform does not impact the density bonus program that encourages more affordable housing production. Author cites San Diego that San Diego's push to abolish parking did not directly reduce, but rather produced more affordable and market-rate housing. Author states that "The most important point…is that parking reform certainly did not discourage use of the density bonus program"

Case Study: Berkeley

Developers in Berkeley were previously required to provide one parking space per dwelling unit, which was associated with decreased residential densities, increased development costs, increased vehicle ownership and use, and a contradiction to the City's climate and public safety goals. The city conducted a parking utilization study in October 2019 that further illuminated these concerns. The study focused on multi-unit residential projects of 10 or more units and found that only 54% of off-street parking and 60% of on-street parking near surveyed buildings was occupied.

In January 2021, the City Council voted to eliminate minimum off-street parking requirements for new housing developments hoping to address the growing housing crisis in the city. The City also enacted maximum off-street parking requirements in areas with strong transit access (referred to in the Zoning Ordinance as "Transit-rich Areas), stipulating that parking cannot be built at a rate exceeding 0.5 spaces per unit for developments within one-quarter mile of a "high-quality transit corridor". The City Council included the following TDM requirements for all new developments with 10 or more units:

- Provide bicycle parking per the 2017 Bicycle Plan,
- Provide real-time transportation information in common areas, offer residents free monthly transit passes or Clipper Card credit for ten years, and
- "Unbundle" off-street parking from rent.

The passage of these major reforms follows over a decade of adopted plans and programs combatting climate change and the housing crisis in Berkeley through parking reform (2009 Climate Action Plan, 2010 Pedestrian Master Plan, 2016 Resilience Strategy, 2017 Berkeley Bicycle Plan, 2018 City Strategic Plan, 2016 One-way Vehicle Share Program, 2018 Bike Share Program, and 2020 Electric Mobility Roadmap).

For more info:

Berkeley City Council - Special Meeting Item

Berkeley Parking Reform Council Presentation

Case Study: Mountain View (North Bayshore)

The North Bayshore Precise Plan has eliminated minimum parking requirements for an office park district where Google, LinkedIn, and Intuit have their headquarters. A parking of 2.7 spaces per 1,000 square feet of office/R&D was established. All new development must meet a 45% drive-alone rate cap, and there is an overall trip cap for the entire plan area. Within three months of plan adoption, applications for over 7 million square feet of new development were submitted, far above the plan limit of 3.4 million square feet.

For more info:

North Bayshore Precise Plan

Other Cities

- Oakland
- Sacramento
- San Francisco

Case Study: Sacramento

In October 2012, the City of Sacramento voted to eliminate parking minimums for the Central Business District/Arts & Entertainment District. Additional amendments to parking requirements included removing citywide parking minimums for non-residential projects of 6,400 square feet or less, on the non-residential components of vertical mixed-use projects where more than 50% of the building's square footage is devoted to residential uses, and on historic resources that have been converted to residential uses.

Staff were initially interested in adjusting parking requirements along a commercial corridor to incentivize development, but the City Attorney's office determined that changes should be done on a citywide basis. In the year following the approval of the parking reforms, there were no applications for parking waivers. Instead, applicants opted for administrative parking permits, which allow for off-site parking but provide credit for other facilities (e.g., bike or scooter parking) that can reduce parking demand.

Staff conducted extensive outreach to stakeholders, which included neighborhood organizations, business and property owners, public agencies, and advocacy groups. Interviews with residents and other stakeholders were also conducted when the project began in 2011.

In January 2021, City Council voted unanimously to abolish parking minimums citywide, though changes may not officially be adopted until the summer of 2022 to allow more time for public engagement. This reform is intended to reduce car trips, encourage density to support more transit use, and to spur residential development by driving down housing construction costs.

For more info:

2012 City of Sacramento Council Report

City of Sacramento Zoning Code Parking Regulations Summary Sheet

POLICY #2

Parking Maximums

Used For

- Reducing systematic overbuilding of parking.
- Encouraging sustainable growth through more walkable and multimodal urban design patterns.
- Supporting infill development, particularly in dense, urban areas with constrained space.

Level of Difficulty: ●●●

Impact: ●●●

Policy Overview

- Parking maximums set a cap on the number of parking spaces that developers can provide as part of a proposed project. This practice reverses the practice of minimum requirements, by defining limits on off-street parking based on the land uses proposed for a development project. Parking maximums can be implemented in addition to, or instead of, minimum parking requirements. Parking minimums can also simply be converted directly into maximums.
- Maximums ensure that parking is not oversupplied and incentivize developers to plan and design for use of alternative transportation modes. Parking maximums can also increase development densities, improving area walkability and multimodal functionality in support of core TDM objectives. One option is to establish fixed maximums, which limit on-site parking supplies with minimal or no exceptions. Another option is to provide a "soft" or "flexible" maximum that is paired with one or more options that allow more parking, the most common options being:
  - The provision of publicly shared parking, with these spaces simply not counted toward the project's maximum.
  - The payment of a fee for each space provided in excess of the maximum.
  - The provision of mobility improvements and/or implementation of TDM measures
  - Whether using a fixed or flexible approach, establishing maximum parking limits can achieve several key benefits, not limited to:
    - Facilitates and encouraging higher development densities.
    - Incentivizes investments in alternative transportation modes.
    - Reduces traffic congestion and VMT by reducing parking activity.
    - Reduces housing costs by reducing the cost of constructing parking and increasing the potential number of units that can be developed.
    - Emphasizes the expectation of reduced parking needs in key development areas.

Benefits

- Limits the amount of excess parking built, particularly in areas where walking and multimodal mobility are most viable as alternatives to driving.
- Facilitates and encouraging higher development densities.
- Incentivizes investments in alternative transportation modes.
- Reduces traffic congestion and VMT by reducing parking activity.
- Reduces housing costs by reducing the cost of constructing parking and increasing the potential number of units that can be developed.
- Emphasizes the expectation of reduced parking needs in key development areas.
- Promotes more efficient use of land.
- Enhances urban form.

Implementation Steps

1. Define area of focus.
2. Conduct an analysis comparing development-accessory parking supplies with development requirements to identify any patterns of providing parking supplies that exceed required amounts. To the extent that such patterns exist, the removal of parking minimums is unlikely to reduce oversupplies of parking unless combined with other measures.
3. Educate and articulate trade-off findings that communicate the true cost and negative outcomes of artificially high parking standards. Collaborate with stakeholders early on, establishing partnerships and crafting a vision with shared goals.
4. Establish parking maximums to land uses and in locations identified as likely to attract excess supplies, even if parking minimums are removed.
5. Where this is not the case, removing minimum parking requirements should be prioritized over establishing maximums, with the latter often being better held for a second phase of reform implementation to focus on getting minimums removed (which is often harder than expected).
6. Monitor results. Track performance by conducting post-implementation parking counts to assess impacts on supply. Adjust policies if needed.

Key Features

- **Parking occupancy.** Parking counts can identify parking facilities that have low utilization. Areas with consistently low parking utilization may be an indication of excess parking supply.

Pro Tips

- Implement along with the removal of minimum requirements (**Policy #1**) where reducing parking supplies is a priority, and developers have consistently provided more parking than required to by code.
- Can be paired with shared parking (**Policy #5**) as an alternative to overbuilding parking.
- Depending on a city's objectives, may only apply to certain types of parking, such as accessory (non-shared), long-term, free, or surface parking.
- Typically implemented in large commercial centers seeking to reduce excess parking supply, encourage sustainable travel modes, and create more compact development.
- Can allow for additional parking to be built on a case-by-base basis through additional permits. Flexible (or "soft") parking maximums that do not apply to shared spaces can encourage developers to build parking that can meet off-site parking needs during off-peak hours.

Case Study: Berkeley

In January 2021, Berkeley City Council voted to instituted parking maximums on off-street parking for new residential developments in transit-rich areas. Under the new requirements, off-street residential parking cannot be offered at a rate of more than 0.5 spaces per unit for projects located within 0.25 miles of a high-quality transit corridor. Staff analysis revealed that nearly 50% of existing off-street parking spots in housing projects sit empty, suggesting that parking supply in the city exceeds demand.

The recommendation to implement parking maximums stemmed from the Green Affordable Housing Package proposal which aimed to prioritize housing over parking spaces in new developments. Sponsored by Councilmember Lori Droste, City Council passed the proposal in October 2015 which also recommended reducing or eliminating parking minimums for new housing if car-sharing spaces are offered and in areas where car ownership is low.

For more info:

Green Affordable Housing Memo

January 2021 City Council Presentation on Parking Reform

Case Study: Sunnyvale

In December 2012, the City of Sunnyvale narrowly voted to establish parking maximums and minimums for commercial and office uses alongside other changes, including reducing parking requirements for shopping centers. Prior to these adjustments, parking counts for medical offices showed vacancies from 45% to 75% at peak periods. These changes were made to balance the amount of parking available in the city.

The City's Municipal Code identifies parking maximums range from 1.2 spaces (per hotel room) to 18 spaces (for bars or nightclubs) depending on the type of business or use.

For more info:

Sunnyvale Municipal Code

Other Cities

- Oakland
- San Francisco
- Alameda
- Gilroy
- Novato

Case Study: Fremont

Fremont's Warm Springs Innovation District (WSI) is a mixed-use district in the vicinity of the Warm Springs/South Fremont BART Station. The WSI district is divided into ten subareas, each with special parking reduction rules. For most uses, WSI district has no parking minimums and only parking maximums. For residential uses, WSI district requires 2 spaces per unit.

One of the subareas – BART subarea – has an even greater parking reduction than the rest of WSI district. The BART subarea is defined as areas within ¼ mile of BART station. The BART subarea require 1.5 spaces per unit and the minimum residential density within ¼ mile of BART station must be 50 units/acre.

For more info:

Fremont Municipal Code 18.49 Warm Springs Innovation ("WSI") District

POLICY #3

Reduced Parking for Affordable Housing

Used For

- Optimizing land for affordable housing that would otherwise be dedicated to parking.
- Reducing the development and construction costs that hinder the feasibility of building affordable housing in areas that have right-sized parking minimums.
- Recognizing the lower average rates of vehicle ownership rates among lower-income households.[2]

Policy Overview

Affordable housing is distinct from other residential uses in terms of both the level of parking demand they are likely to generate and the price-sensitivity of the households they are meant to accommodate. Parking requirements that do not account for these factors will reliably result in more parking than is necessary – and unnecessary construction costs that result in more expensive housing, or less housing, or both.

Benefits

- More affordable market-rate housing units.
- More affordable housing units.
- When broadly applied, urban design that shortens walking connections between residents and nearby destinations, resources, and multimodal network connections.

Level of Difficulty: ●●○

Impact: ●●●

Implementation Steps

1. Complete a peer comparison and best-practice review of parking standards and utilization for affordable housing and comparable uses.
2. Consult resources like ITE to identify distinct parking generation ratios for affordable housing and comparable dwelling units.
3. Work with local housing and equity advocacy groups to explore "right fit" reduction levels for all levels of affordability, and if requirements might best be removed for some or all.
4. This could include optional reductions that are linked to mobility improvements, amenities, and/or benefits that would best benefit eligible residents – though this is recommended only where developers are likely to choose such options over meeting minimum parking requirements.
5. Review existing affordable housing policies like inclusionary zoning ordinances and density bonus to make sure the parking reduction policy is complementary and not conflicting.
6. Select an approach and level of reduction that best fits your community's affordable housing context, goals, and opportunities.

[2] FHWA NHTS Brief: Mobility Challenges for Households in Poverty 2009 National Household Travel Survey

Key Features

- **TDM Requirements.** Supplementary TDM requirements can improve access and mobility for affordable housing residents and reduce their dependence on personal auto access to access jobs, good, services, and broader community connections.
- **Unbundling**. Ensuring that the use of on-site parking is a separate, optional cost for Affordable Housing residents can provide further housing-cost reduction opportunities.
- **Cash-out**. Encourage the provision of a cash benefit for Affordable Housing residents who do not use on-site parking, particularly if unbundling is not implemented.

Pro Tips

- Work with local housing advocacy groups to ensure that proposed policy changes align with their goals and benefit from their understanding of residents' needs, vulnerabilities, and preferences.
- Can build support for reduced or eliminating parking minimums citywide (**Policy #1**).
- Seek synergies with parking reductions tied to transit proximity (**Policy #4**) to both encourage better transit access from Affordable Housing units and recognize the more significant impact that such proximity is likely to have on Affordable Housing household parking needs.
- Seek synergies with Parking Benefit District (**Policy #10**) implementation to bring Affordable Housing residents in closer proximity to the public space amenities and mobility benefits typical of such districts.

Case Study: Milpitas

In April 2015, Milpitas updated its **Housing Element 2015 – 2023**. Though the city does not have an inclusionary zoning ordinance, the city's zoning ordinance includes an affordable housing goal that stipulates at least 20% of units in new residential developments be affordable. As part of incentives for developers, the City allows for modifications to the development standard, including reduced parking requirements. Parking reduction is also offered as a benefit for developments in Transit-Oriented Overlay Zone.

A maximum of 20% reduction in parking requirements are granted for developers that provides affordable units more than 20% of the total number of residential units built. For every additional five percent of affordable units, the developers can choose two incentives out of seven provided.

The city successfully provided incentives to residential projects such as, Paragon, Aspen Apartments, and others that resulted in over 300 affordable units in 2015.

For more info:

City of Milpitas Housing Element Update 2015-2023

Case Study: San Carlos

In 2015, San Carlos adopted its **2030 General Plan** that included Chapter 4: Housing Element. The Below Market Rate (BMR) Housing Program was an inclusionary housing ordinance that required all residential ownership development to include at least 15% affordable units for low and moderate-income households. One of the incentives for below market rate units included flexible parking standards.

Though unspecified in the code, BMR housing can have limited reductions in the parking requirements related to any dwelling units have limited use of tandem and/or shared parking arrangements or have a combination of these modified parking standards. Other incentives also include density bonus, flexible setback allowance, and financial assistance. The BMR Housing Program also allows for in-lieu fees, which could provide greater flexibility for developers.

Because San Carlos has little undeveloped area, new affordable housing units typically require redevelopment of underused properties. These redevelopments concentrate on Laurel Street, El Camino Real corridors, and areas close to the Caltrain Station. Currently there are 29 new affordable units to be rented or sold at below-market rate prices.

For more info:

San Carlos 2030 General Plan

Other Cities

- Concord
- Daly City
- Richmond

Case Study: Sunnyvale

In July 2011, Sunnyvale adopted its **General Plan** and in December 2014, Sunnyvale adopted its Housing Element (2015 – 2023) of the General Plan. It required reduced parking requirements for affordable housing, senior housing, and persons with disabilities. Affordable housing is part of more broadly defined "Special Housing Development" that also include senior citizen housing and housing for persons with disabilities. These types of housing have their own required parking spaces. A parking management plan is also required for all special housing developments. In 2017, Sunnyvale's Housing Strategy also identified parking reduction as one of its strategies.

For affordable housing in particular, a one-bedroom requires 1 space per unit, two or three bedrooms require 2 spaces per unit, and four or more bedrooms require 2.15 spaces per unit. In contrast, market-rate housing requires at least 1 covered assigned space per unit. Covered assigned spaces may be in individual garages, carports, or parking structures. Additional unassigned spaces are required. A one-bedroom requires 0.5 unassigned spaces per unit, two or three bedrooms 1 assigned space per unit, and four or more bedrooms require 1 plus 0.15 unassigned spaces for each bedroom above the third bedroom unit. Unlike San Carlos and Milpitas' affordable housing incentives, Sunnyvale's parking reduction for special housing development is prescriptive and specified. For development that applies to both affordable and senior/person with disability, there is a further reduction in the number of spaces required per unit at 0.6 per unit.

For more info:

Sunnyvale General Plan Housing Element (2015-2023)

POLICY #4

Reduced Parking for Transit Proximity

Used For

- Reflecting the potential for reduced automobile ownership and usage for areas near transit.
- Encouraging use of transit and
- Supporting Transit-Oriented Development (TOD).
- Right-sizing the parking supply to reflect reduced automobile demand resulting from transit proximity.

Policy Overview

A new development built near a transit stop provides greater flexibility for those who would like to access it – creating opportunities beyond drive-alone vehicle trips. With transit stops in proximity to the new development, there is reduced need for parking spaces. Many cities are lowering parking minimums for new developments within a certain distance from transit stops, not only to better right-size the parking supply to meet the anticipated demand, but also to encourage the use of transit for users of the site.

Benefits

- Reduces vehicle ownership and vehicle trips.
- Promotes health through increased walkability and reduced traffic congestion.
- Makes developments near transit stations more compact, leading to shorter walking distances.
- Can reallocate space for more land uses that are more complementary to transit, including mixed-use, community spaces, affordable housing, and parks and open space.

Level of Difficulty: ●●○

Impact: ●●●

Implementation Steps

1. Determine eligibility criteria, which could consist of simply being located within a Transit Overlay District, or within a certain number of feet of a transit stop.
2. Decide whether the reduction should be universal or varied. If varied, it may include whether certain types of transit (e.g., bus vs rail, commuter vs express) warrant different parking reductions, or if there are different tiers of proximity that may receive different parking reductions.
3. Perform a parking analysis to understand what parking supply and demand look like as a whole and in specific districts. This will help create a baseline for right-sizing reductions.
4. Monitor program to ensure that the reduction in parking supply is meeting goals of the community and positively impacting transit ridership. Re-evaluate often and adjust proximities or reductions to better achieve goals if applicable.

Key Features

- **Transit Overlay Districts.** To identify locations that meet transit proximity standards and qualify for parking reductions, there must be designated areas that are identified as supportive of Transit-Oriented Development. While a special zoning district is not required, it simplifies the eligibility determination process for new developments.
- **Complementary Infrastructure.** Making the connection between transit stops and development means that the appropriate facilities will need to be present. At the very least, crosswalks, sidewalks, and curb ramps will need to be built out to create an adequate connection.
- **Transportation Demand Management (TDM).** To better strengthen the transit connection, there is the opportunity to include other transit-focused measures in the development. This could include subsidized transit passes for employees and residents or transit information displayed in the lobby of the building.

Pro Tips

- Only applicable if parking minimums are in place. Can build support for reduced or eliminating parking minimums citywide (**Policy #1**).
- Ensure that there is adequate pedestrian infrastructure between transit stops and the new development to provide access for those taking transit to the site. Developers are often tasked with creating transportation connections as a condition of developmental approval and creating a link to transit should be a priority if this parking reduction is given.
- Create connections with policies that pair reduced parking with affordable housing **(Policy #3**) to provide better and more direct mobility options for underprivileged groups.
- Consider a tiered structure that allows for a greater parking reduction for closer proximity to transit. For example, the development must meet 50 percent of the minimum parking requirement if between a ¼-mile and 500 feet of a transit stop, but just 25 percent of the minimum parking requirement if within 500 feet of a transit stop.

Case Study: Belmont

In 2008, the City of Belmont amended their Off-Street Parking and Loading code to reflect "uses in proximity to train station parking". The zoning administrator can review and approve up to 25% parking reduction for any building or uses located within 300 feet of the train station parking facility. The applicant must prove that peak parking demand can be accommodated in other ways such as off-site public parking facilities.

For more info:

Belmont Municipal Code 8.2.4 Uses in Proximity to Train Station Parking

Case Study: San Diego

As of 2000, the City of San Diego's municipal code allows parking reductions within its Transit Area Overlay Zones. These zones are areas deemed to have a high level of transit service paired with reduced parking demand and were created to promote more efficient land use. Developments that are located within a *transit area* see parking requirements reduced by 0.25 spaces per multifamily dwelling unit and up to 0.7 spaces per 1,000 square feet for commercial, mixed-use, and office uses.

Developments can achieve this reduction if all or a portion of the site is within a *transit area*, as described by the municipal code. There are also similar parking reductions for developments in low-income areas.

For more info:

San Diego Municipal Code 142.05 Parking Regulations

Case Study: Sacramento

In December 2018, Sacramento City Council passed a Transit-Oriented Development (TOD) Ordinance that reduces parking requirements and restricts certain car-oriented uses within a half-mile of an existing or proposed light rail station. Under the TOD Ordinance, there are no parking minimums for off-street vehicle parking within ¼-mile of a light rail station. Within ½-mile of a light rail station, the required off-street vehicle parking is reduced by 50%.

For more info:

Sacramento Parking Requirements

Staff Report on TOD Ordinance Amendments

Other Cities

- San Carlos
- San Mateo
- Livermore

POLICY #5

Shared Parking

Used For

- Reducing systematic overbuilding of parking.
- Minimizing new development impacts on existing on-street parking availability.
- Encouraging a transition from private parking to a shared parking inventory that facilitates more efficient and sustainable growth.
- Supporting infill development, particularly in dense, urban areas with constrained space.

Policy Overview

Shared parking typically allows 20-40% more users than individually assigned spaces. Parking users are usually not all present at the same time, so spaces can be maximized when business or uses with different peak hours share parking spaces. Even greater reductions are possible with mixed land uses because various activities have different peak demand times.

Shared parking can significantly improve the economics of constructing new parking by providing greater turnover in the facility — rather than one user per day, a facility may service multiple users. Allowing for shared parking arrangements significantly reduces the amount of land devoted to parking. Shared parking is most impactful when it reduces the systemic oversupply of parking spaces.

Benefits

- Unlocks underutilized parking assets.
- Increases access to parking supply without building costly parking facilities.
- Reduces barriers to infill development, change-of-use projects, and other economic development that can be challenged by parking requirements.
- Improves walkable design of large projects.

Level of Difficulty: ● ○ ○

Impact: ● ● ○

Implementation Steps

1. Identify land uses that have different peak hours and can benefit most from shared parking.
2. Conduct an analysis to determine whether shared parking is allowed citywide or in specific areas and specify the number or percentage of spaces that can be shared.
3. Determine the maximum distance that a shared parking facility can be located away from a given building. Parking facilities should either be located on-site or within an acceptable walking distance of each use (e.g., 1,500 feet).
4. Revise the Zoning Code to permit and encourage shared parking, which can include:
   - Shared parking agreements between individual property owners,
   - Leasing private parking facilities for public use, and/or
   - Allowing new developments to share parking between uses on site, leasing nearby parking sites, or building new parking that can be used by the general public.

Key Features

Shared parking agreements. Agreements between property owners should include:

- Detailed information about responsible parties.
- Map of the parking facility.
- Dedicated shared parking spaces.
- Explicit information about pricing and management.
- Contract/agreement terms and duration of terms.
- Specific liability language.
- Provision of agreement renewals.
- Non-competing parking demand peak hours between the uses. Institutional uses such as banks, schools, offices, medical clinics have weekday peaks whereas retail and entertainment uses such as auditoriums, bars, restaurants and theaters have evening peaks.

Pro Tips

- Can be implemented in various ways depending on how parking is shared[3]:
  - **On-street parking**: regulate and price on-street parking to favor higher-value uses (e.g., deliveries and urgent errands),
  - **Within a parking facility**: reduce parking requirements. Allow multiple users to share spaces, with a plan for addressing overflows.
  - **Between destinations**: Reduce requirements in compact, mixed-use areas. Establish shared agreements between uses with varied peaks. Create parking brokerage services.
  - **Public rather than private parking**: Reduce requirements in compact, mixed-use areas. Build government or encourage commercial parking operators. Improve walkability and wayfinding.
- Can be paired with parking maximums (**Policy #2**) as an alternative to overbuilding parking.
- Shared parking agreements can be organized by parking benefit districts (PBDs, **Policy #10**).
- Parking in-lieu fees **(Policy #7)** encourages shared parking
- In addition to establishing policy, discover and consider the practical limitations to adopting shared parking – e.g., liability, insurance, wayfinding, data gaps.
- The appropriate number of motorists that can be assigned to a particular number of parking spaces depends on several factors. In general, the more diverse the user, and the larger the facility, the more parking spaces can be shared.

[3] https://www.vtpi.org/park_man_comp.pdf

Case Study: Walnut Creek

Shared parking has been actively encouraged in Walnut Creek as early as 2002, when it was mentioned in the North Main St/Ygnacio Rd Specific Plan. Along with other specific plans like the West Valley Specific Plan and Locust St/Mt. Diablo Blvd Specific Plan that also prescribed shared parking, it is a concept well grasped by both new developers and existing businesses in Walnut Creek. Shared parking is an effective tool to manage overbuilding parking by providing greater turnover in parking facilities, and in return, creates more opportunities for mixed use, creative site planning for housing, retail, and office uses.

To obtain shared parking, developers must receive a minor conditional use permit approval from the Walnut Creek City Council. Maximum parking reduction is up to 20% of the total number of spaces required for each use. The developer must prove that all users of shared parking do not have competing peak hour, have sufficient quantity, will not adversely affect other properties parking supply, will not be unsafe to the neighborhood, and will be within reasonable distance from it.

Developers in Walnut Creek takes full advantage of shared parking provisions, especially along its downtown corridor, North Main Street. In 2011, City Council approved shared parking use between a 42,000 sq.ft 24-hour fitness center and a 4,700 sq.ft restaurant with a drive-up service. In 2016, a new mixed-use development "1716 lofts" on Main Street and the adjacent Realtor was approved for a shared parking agreement where employees of the Realtor can access the basement of three-leveled parking lot.

For more info:

10-2.3.203 Provisions for Common Loading and Parking, Parking Space Reduction and Off-Site Parking.

Case Study: Fairfield

Shared parking has been part of the Zoning Ordinance adopted by the City Council since April 20, 1999. The City of Fairfield's Design and Development Guideline adopted by the City Council in 2004 also prescribes shared parking as part of its Downtown Commercial Development Guidelines. The 2012 Circulation Element notes the objective of a shared parking facility is to provide adequate parking and loading facilities while encouraging alternative means of transportation (Objective CI5). The program suggested is to "establish a joint agreement between the City, County, and School Districts to operate shared parking facilities." and "work with developers to facilitate joint parking and access agreements, shared parking arrangements, consolidated parking lots, and other mechanisms for sharing parking facilities."

To obtain shared parking, a shared parking study may be required to prove that uses have non-competing peak hours and a reciprocal parking and access easement agreement must be recorded with the County Assessor. Maximum parking reduction is up to 25% of the required number of parking spaces.

For more info:

City of Fairfield Design & Development Guidelines 2004

25.34.5 Adjustment to Off-Street Parking Requirement

Other Cities

- Berkeley
- Redwood City
- Benicia

POLICY #6

Unbundled Parking

Used For

- Rewarding use of non-driving modes.
- Increasing overall housing affordability.
- Reducing parking demand, alone or as part of a broader TDM package.

Policy Overview

Parking costs are often absorbed into the sale or rental price of residential and commercial uses, thereby hiding the true cost of parking and encouraging driving. By unbundling parking, property owners can charge residents and tenants separately for leasing a parking space.

Unbundled parking saves money for households that do not wish to park a vehicle. Residents recognize the cost of parking and can determine if it is a worthwhile expense, as opposed to it being incorporated into the overall price of renting or buying a home regardless of whether the resident owns a vehicle.

Benefits

- Increases the affordability of housing, particularly for households with below-average vehicle ownership rates (e.g., low-income, college students, single parents)
- Allows residents and tenants the flexibility to only pay for parking they need.
- Reduces on-site parking demand.
- Reveals the true cost of parking and incentivizes users to consider other travel options. This can coincide with parking cashout or other commuter benefit policies.

Level of Difficulty: ● ○ ○

Impact: ● ● ●

Implementation Steps

1. If not applied citywide, conduct a parking analysis to determine the geographic areas, land uses, and development scales that will not be subject to unbundled parking.
2. Determine if unbundled parking will be required or simply provided as an optional tool for developers to reduce the amount of parking they are required to provide.
3. Monitor developments that have implemented unbundled parking to track, monitor, and report on long-term impacts.
4. If results are not meeting the goals of the community and property owners are offering parking at a very low price, consider conducting a market analysis to understand the average price of parking in nearby facilities and setting a minimum fee threshold to prevent the lease of a parking space essentially for free.

Key Features

- **Unbundling options.** Parking can be unbundled several ways:
  - Parking spaces are not included in the base rent/purchase cost, and are rented by the tenant/owner separately,
  - Landlords/condo associations can provide a discount to renters/owners who do not want to use the standard number of parking spaces, or
  - Landlords/condo associations can create a secondary market for parking by renting unused spaces out as a separate commodity.

Pro Tips

- Consider pairing with reduced or eliminating parking minimums (**Policy #1**). Unbundled parking will reduce parking demand, so it is important to allow for the construction of fewer parking spaces.
- Pair with priced or managed parking of surrounding area where possible. If on-street parking adjacent to the development is free and not regulated by time limits, there is a potential for spillover.
- If adopted, the zoning code should not require prospective residents and tenants to purchase or rent a parking space along with the purchase or rental of a unit.
- Enforcement of unbundled parking has been a challenge across the state. To ensure compliance, City staff can conduct site checks and require developments to submit annual reports that detail the amount of parking leased and fee charged.

Case Study: San Francisco

San Francisco was the first city in North America to mandate both unbundling and carsharing in large developments. In 2002, the Planning Commission started requiring the unbundling of residential parking in large projects on a case-by-case basis. Rincon Hill was the first neighborhood in San Francisco to require all residential spaces be unbundled. In June 2008, the Board of Supervisors approved legislation to require parking unbundling without special approval.

Analysis from the 2010 Value Pricing Pilot project found that these combined policies significantly reduced household vehicle ownership rates. Apartments that had enacted these policies had an average vehicle ownership rate of 0.76 vehicles per unit compared to apartments without unbundled parking and car sharing that had an average vehicle ownership rate of 1.04 vehicles per unit.

For more info:

Planning Code Article 1.5, Section 167

Case Study: Mountain View (North Bayshore)

Adopted by City Council in November 2014, the North Bayshore Precise Plan outlines an Affordable Housing Strategy which lists unbundled parking as a specific strategy to reduce the costs to build and operate residential units. As noted in the Plan, unbundling parking fees from the costs of housing increases housing affordability, reduces demand for on-site parking, and provides an incentive to implement stronger Transportation Demand Management (TDM) programs.

North Bayshore's Residential TDM Guidelines list the unbundling of parking as a required strategy. As discussed in the TDM Guidelines, the estimated reduction in vehicle miles traveled (VMT) from unbundling parking ranges from 2.6% to 13%, depending on parking costs and users' sensitivity to price.

For more info:

North Bayshore Precise Plan

North Bayshore Residential TDM Guidelines

Other Cities

- Oakland
- Alameda
- Richmond
- Emeryville
- South San Francisco

POLICY #7

Parking In-Lieu Fees

Used For

- Supporting infill development.
- Creating a revenue-positive alternative to waiving parking requirements through variances.
- Creating funding for establishing/maintaining parking management districts.
- Encouraging a transition from private parking facilities to a shared inventory of public parking to facilitate more efficient and sustainable growth.

Policy Overview

In-lieu parking fees (ILF) allow developers to provide less parking than is required by the zoning code by paying a fee. An ILF may simply facilitate infill development, or more ambitiously, normalize funding public parking to meet minimum parking requirements – usually within a district with a coordinated, managed system of public parking. In this context, an ILF can be a powerful tool for shifting district parking resources from isolated, redundant private facilities to a flexible, shared pool of spaces. This can significantly reduce the amount of parking needed for the district, facilitating more growth with less parking.

Benefits

- Reduces barriers to infill development, change-of-use projects, and other economic development that can be challenged by parking requirements.
- More options to reduce development costs, creating opportunities for more affordable housing and commercial space.
- Better, more walkable urban design by providing alternatives to on-site parking that is a poor fit for the site or surrounding context.
- Makes it easier to restore historic buildings and revitalize older business districts.
- Can be used to fund mobility improvements.

Level of Difficulty: ● ○ ○

Impact: ● ● ○

Implementation Steps

1. Determine the geographic areas, land uses, and size of development that should be eligible and the percent of required parking spaces that can be provided via the in-lieu fee.
2. Determine a universal fee amount and structure. The fee can be structured as a fixed one-time fee per space or an annual fee per space but should be applied consistently regardless of land use or project location within the proposed district.
3. Adopt a policy for an in-lieu fee and include flexible provisions that allow City Council to revise fees on an as-needed basis to respond to the development market and ensure that the fee maintains its effectiveness.
4. Adjust the fee on an annual basis and link fee increases to a construction cost index.

Key Features

- **Strategic Fee-Setting.** Set the fee rate at a level that offers developers a cost savings compared to typical per-space construction/operation costs for privately funded, accessory parking. By comparison, municipalities can typically construct parking at much lower costs, leveraging scale efficiencies and lower borrowing costs – and will benefit from the efficiencies of a shared parking system to ultimately build less parking to meet the same demand. Thus, a fee can be set that is attractive to developers, yet sufficiently high to ensure ample revenue is accrued to enable strategic public investments.
- **Investment Latitude**. There is often an assumption that the payment of an ILF entitles a developer to anticipate that a commensurately sized parking facility will soon be provided in close proximity to their project. The establishing ordinance should be clear on three key points that will help mitigate such assumptions. 1) Funds will be spent to acquire/develop new parking only when a district-wide assessment of supply/demand conditions suggest that supply expansion is warranted. 2) The location of newly acquired/developed parking will be based on site opportunities and district-wide conditions, and not on the location of projects that have made the most recent or significant ILF payments. 3) Funds can also be spent on mobility improvements and other opportunities to reduce parking demand.

Pro Tips

- Implement only if parking minimums are not eliminated (**Policy #1**).
- Parking in-lieu fees encourage shared parking (**Policy #5**)
- Should be voluntary in nature and not classified as a development impact fee. The fee is voluntary because a developer, property owner, or lessee has a choice to build the required on-site parking or pay the fee instead. As such, courts have not required parking in-lieu fees to meet the legal requirements of the California Mitigation Fee Act (AB 1600, 1987, Gov. Code § 66000).[4]
- Consider using a progressive fee structure that minimizes the cost for small project developers to pay down their full requirement, while ensuring a sufficient revenue boost from larger projects that provide little to no parking.
- Adjust fee amounts based on the local Consumer Price Index (CPI). CPIs act as a measure of average change over time in the prices paid by urban consumers for goods and services in a particular Metropolitan Statistical Area (MSA). Readjusting in-lieu fees to the local CPI helps to ensure the program is dynamic and in concert with current real-estate markets.
- Allow for the most flexible use of revenue as possible. Ultimately, the city may choose to spend all of its in-lieu fee revenue on new parking, but the program should be designed to offer flexibility to allow the city to meet its overall goals.

[4] The City or County Attorney should be consulted to confirm legality.

Case Study: Berkeley

Since 2013, Berkeley instituted an in-lieu fee program for off-street parking for new developments. The program was implemented to support policies adopted in the Downtown Area Plan (DAP). The City uses a sliding scale that reflects a preference for larger projects to provide at least some parking on-site, while making the fee option more attractive to developers with smaller infill sites. The fee is set as follows:

- $15,000 per space for spaces 1-5 waived or reduced,
- $20,000 per space for spaces 6-15 waived or reduced,
- $25,000 per space for spaces 16-25 waived or reduced, and
- $30,000 per space for spaces 26 and greater waived or reduced.

The fees collected from this program are used to fund bicycle and pedestrian projects in Berkeley's Streets and Open Space Improvement Plan (SOSIP) and other Bicycle and Pedestrian Plans.

For more info:

Berkeley Public Hearing Parking In-Lieu Fee Memo

Other Cities

- Millbrae
- Mountain View
- Pasadena
- Walnut Creek

Case Study: Petaluma

In June 2003, Petaluma implemented its version of the SmartCode – a New Urbanist code that coordinates the design of the public realm with the design of private buildings, focuses on the pedestrian experience, and holds a reduction of parking requirements as one of its key elements.

In addition to providing guidance on scaled, mixed-use zoning, pedestrian facilities, and streetscape design, Petaluma's SmartCode outlined policies to improve parking in central Petaluma. These policies were designed to accomplish the primary goal to "Maximize opportunities for shared parking," and includes language allowing the provision of a fair share contribution to finance parking facilities (Policy A.2), which allows parking requirements to be replaced by a fee paid by the developer.

Under Petaluma's SmartCode, applicants intending to develop a site may execute an agreement with the city in order to reduce the number of parking spaces or eliminate on-site parking requirements. This agreement with the City would:

1. Waive the right to protest the formation of a parking district; or
2. Provide some other fair share contribution acceptable to the review authority (i.e., a fee-in-lieu structure).

Initially, the in-lieu fee for the City of Petaluma was set at $20,000 per parking space with annual fee adjustments, but the fee has varied by project location.

For more info:

Petaluma Municipal Code Section 6. Parking Standards & Procedures

POLICY #8

Priced Parking

Used For

- Maximizing use of existing parking supply.
- Ensuring other transportation options are not overshadowed by heavily subsidized free parking.
- Fostering an environment where parked vehicles are more likely to turn over, increasing the availability of parking spaces.
- Reducing circling for spaces.
- Encouraging "park-once" practices, especially in downtown and commercial/retail areas.
- Providing an added tool to regulate commercial parking and manage curb use more effectively.

Policy Overview

Charging for parking is an established common practice that cities across the nation and world have implemented to increase parking availability, decreasing the likelihood that drivers might prolong their parking for extended periods of time. Technological advances have changed the way in which paid parking can be managed, and street parking can nowadays be paid by a variety of ways (ranging from the traditional parking meter to phone and smart app options). Technology can be implemented to monitor parking levels, and even allowing some users to reserve paid spaces (which might be most useful for commercial parking and delivery).

Level of Difficulty: ● ● ●

Impact: ● ● ●

Benefits

- Increases the likelihood of finding parking spaces in high-demand areas.
- Coordination between off- and on-street parking can further manage demand, improve efficient use of existing parking, and reduce the need to provide more parking.
- Revenues obtained by paid parking can be used to improve transit options or other transportation benefits in the area.
- Makes it easier to find a parking space by improving parking turnover and reduces circling for parking.

Key Features

- **Design around demand, not revenue.** To accurately assess demand of parking in areas where paid parking is being considered, consider a variety of methods. Those can include parking sensors or manual data collection. Parking management approaches should be focused on outcomes, such as improved parking availability, rather than revenue generation
- **Robust communications.** Extending from outreach through implementation and operations, a communications strategy is critical to emphasizing the policy and user experience need for paid parking.
- **Signage and wayfinding.** Effective program operation requires signage, wayfinding, and technology systems prior to rollout. These tools are essential to make searching and paying for parking as easy as possible for the customer.
- **Enforcement.** Public parking enforcement is often a challenge. Some challenges are self-imposed – ad hoc regulations vary by block, making it difficult to enforce – often with limited financial resources for enforcement. Some are inherent – relying on staff covering large geographic areas. Large cities may have specialized units, while many others rely on Police Department assistance – and parking is typically seen as a low priority and gets under addressed. Effective and fair enforcement is key, however, as parking regulations are less effective without it. Ideally, a pricing program works closely with enforcement units to align goals and resources around this priority project. The length of time limits in particular shapes enforcement needs – longer time limits relieve some enforcement pressures. The cost of tickets is a key issue as well – ideally the price is low enough to not be overly punitive but high enough to encourage compliance – when feasible, a tiered model is ideal. Enforcement alone will not fix underlying parking challenges, but it is one ingredient for success.

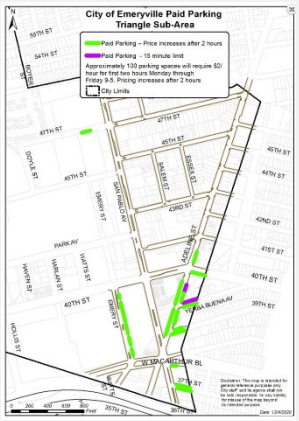
Implementation Steps

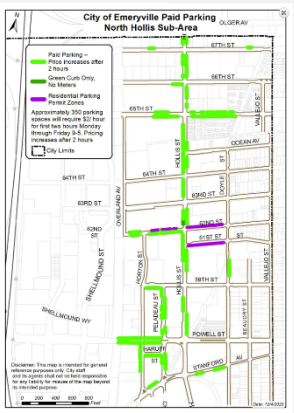
1. Conduct a utilization assessment to determine where parking demand exceeds supply.
2. Consider matching paid parking zones to the operating hours for high demand attractions.
3. Conduct outreach to communicate the benefits of paid parking and build support.
4. Determine the paid parking zones, hours of operation, time limits, and pricing range.
5. Establish paid parking policy, including adjustment protocol if considering adjusting rates based on demand in the future (**Policy #9**). Identify or establish programs that revenues obtained through paid parking will fund.
6. Determine if further collaboration with existing parking options is needed, and how this collaboration can take place to increase parking availability.
7. Determine if technological updates can be implemented along added pricing, including potential parking reservation programs.
8. Procure equipment – single space, multi-space and/or pay by phone.
9. Determine enforcement methods.
10. Conduct outreach to inform ahead of launch.
11. Include a grace period for enforcement – give warnings for at least the first week to inform of the change.
12. Monitor outcomes. Based on data, determine if demand-responsive pricing might be more appropriate in the area.

Pro Tips

- Charge for parking where and when open spaces are most needed-paid parking does not need to take place all day and can change into free parking during low-demand periods (nights/weekends).
- Can be implemented as a demand-responsive program (**Policy #9**), but if not possible, general pricing should be prioritized. Charging any fee, even if low, is most critical for managing demand.
- Can be linked to the implementation of a Parking Benefit District (**Policy #10**).
- Incentivize private lots and garages to participate to improve coordinated management of on- and off-street resources.
- Prior to implementation, it is important to clearly explain the benefits of paid parking to the community. Internal stakeholders should be clear regarding the goals of the program, and the public can be engaged through workshops, stakeholder meetings, and a variety of outreach and marketing materials. Clearly answering the public's concerns (and showing concise, easy to understand data on the benefits of paid parking can help foster support for this program.
- Consider potential discounts or other supportive programs for low-income populations and other vulnerable individuals where applicable or creating lower priced areas to serve as affordable parking options.

Case Study: Emeryville





In 2020, the Emeryville City Council approved a pilot paid parking program for North Hollis and Triangle neighborhoods. On Feb 18, 2021, the city announced a new partnership with ParkMobile to enable pay for parking on their mobile device on over 500 parking spaces around town. The two neighborhoods comprise 10% of the city's on-street parking inventory. Commercial spaces will be priced at $2 per hour for the first two hours, and $7 per hour for the third to eighth hour. The city's intention is to encourage parking turnover by pricing longer duration at a higher cost. Payment methods accommodates pay-by-phone through the ParkMobile app, single-space meters, and multi-space ("pay-by-plate") stations.

The city's effort to implement on-street parking payment began as early as 2010, when the City Council first approved the Parking Policy and Management Implementation Plan. The plan encompassed the entire city, but because of concerns expressed by the community, particularly the Emeryville Property Owners Association (EPOA Group), the final parking plan in 2018 was scaled down to focus on just two neighborhoods.

For more info:

City of Emeryville Paid Parking

Parking Policy and Management Implementation Plan 2010

Emeryville Parking Management Plan 2018

Case Study: Walnut Creek

In October 2020, the City Council adopted the Transportation Strategic Plan. The city's primary goal was to "create enough open parking spaces so that customers can find a spot on each block, without having to circle around searching for parking" and "park once and walk to multiple destinations downtown."

As of May 2021, spaces in the Downtown Core are priced at $2 per hour with a 3-hour limit, and areas surrounding Downtown Core are $1 per hour with a 10-hour limit. Payment methods accommodates pay-by-phone through ParkMobile app, and the parking meters are color coded between the $2 per hour zone (Green) and the $1 per hour zone (Purple).

The city also installed 1,089 parking sensors in March 2020 at all metered parking spaces, commercial loading zones in downtown core, and its surrounding areas. This installation was approved after a pilot test in 2019. The parking sensors can evaluate real-time parking occupancy and duration. Combined with existing historical data, the city created a web-based dashboard for public access as well.

For more info:

Walnut Creek Rethinking Mobility Transportation Strategic Plan

Dynamic Parking Data Map

Downtown Parking Sensors Install Update 2020

Other Cities

- Redwood City
- San Francisco
- Petaluma

POLICY #9

Demand-Responsive Pricing

Used For

- High-demand areas with low parking availability.
- Varying demand across different parking assets, including in places with a large variation in demand during peak and off-peak periods.
- Excessive circling for spaces.
- Maximizing use of existing parking supply.
- Managing parking and transportation at special events.

Policy Overview

Demand-responsive pricing charges the lowest possible rate that achieves availability targets. This involves moving from a static pricing system to a demand-based one in which rates are adjusted over time based on utilization data.

The ideal on-street parking occupancy rate is around 85%, which leaves roughly one to two spaces available per block. For off-street facilities where turnover is less frequent, the ideal rate is approximately 90-95%, which ensures supply is optimally utilized. To achieve these rates, cities decrease hourly rates where utilization is lower than the target and increase hourly rates in areas where utilization is higher than the target.

Benefits

- Better aligns price and demand to ensure there is always an open space.
- Makes it easier to find a parking space.
- Reduces circling for parking.
- Improves parking turnover.
- Creates lower rate parking options.

Level of Difficulty: ● ● ●

Impact: ● ● ●

Implementation Steps

1. Determine availability targets and base rates for on- and off-street parking. On-street rates should be higher than off-street to incentivize long-term parkers to park off-street and keep the higher demand on-street spaces available.
2. Adopt a policy granting the appropriate staff authority over rate adjustments, time limits, locations, technology, and hours of operation.
3. Determine the most important demand trends to design the policy around (e.g., geographic unit, time of day or day or week, seasonality) depending on your area's parking demand trends and biggest parking challenges.
4. Set up ongoing adjustment procedures based on availability targets. This includes the frequency of rate adjustments (i.e., one to four times per year) and minimum and maximum charges per rate adjustment (i.e. $0.25 or $0.50).
5. Monitor and evaluate parking availability on a regular basis. Adjust rates and regulations one to four times per year to meet adopted availability targets. For a given block or off-street facility, the “right price” is the lowest price that will achieve this goal.

Key Features

- **Data source.** Demand-responsive pricing requires a consistently collected data source to help assess demand. Typical sources used include manual data collection and modeled occupancy data based on payment data or parking sensors.
- **Data-driven management.** Any parking regulations implemented today will need to be adjusted over time to respond to changes in demand. An ongoing data collection approach based on formally-adopted metrics and goals will enable a city to manage parking and adjust regulations in systematic and transparent way.
- **Data dashboard.** Sharing data directly with the community via a web-based data portal can help build confidence and make it easier to address future parking needs of a neighborhood.

Pro Tips

- Prioritize general pricing first (**Policy #8**). While demand-responsive is ideal to tailor a parking program, just charging for parking is most critical for managing demand.
- Can be linked to the implementation of a Parking Benefit District (**Policy #10**).
- Couple with relaxed time limit – focus on creating available spaces rather than worrying too much about exact turnover rate.
- There are many correct ways to design a pricing program. Can be implemented by zone (e.g., Santa Rosa, Redwood City, Berkeley) or block-by-block (e.g., San Francisco).
- Rate adjustments do no need to occur frequently to be effective.
- Many possible demand dynamics exist when designing adjustment policies (i.e. time of day, day of week, etc.). Analyze utilization trends and choose the most important one to design around – policies should not be overly complex.
- Publish the adjustment policy for transparency. Similarly, post adjustment analysis and rates.
- Communicate the program prior to implementation with effective outreach and messaging, including a program brand, marketing materials, workshops, and stakeholder meetings. Confident, frequent, and clear communication is key – both internally and externally – discussed in more detail later in this document.
- Continuing the principles of demand-responsive pricing, charge for parking where and when open spaces are most needed.

Case Study: Santa Rosa

The City hired a consultant in 2016 to complete a citywide parking study, which recommended a package of parking strategies aimed at improving access to parking in the core downtown. In June 2017, the City Council approved a number of these strategies, including zone-based demand-responsive pricing. Key changes included:

- **Establishment of two metered parking rate areas**. The Premium Rate Area includes the core of downtown where demand for on-street parking exceeded 85% at peak demand. Hourly rates for parking increased to $1.50/hour in the Premium Rate Area. The Value Rate Area remained at the existing rate of $1.00/hour.
- **Rate adjustments.** Metered parking rates may be adjusted (up or down) over time to achieve the desired goal of 85% occupancy. Metered rates may be adjusted no more frequently than once every six months, by not more than $0.25/hour, and with rates limitations in place that parking rates can be no lower than $0.25/hour and no higher than $3.00/hour.
- **Time Limits.** Time limits in the Premium Rate Area increased from 1 or 2 hours to 3 hours. Time limits in the Value Rate Area were set between 4 and 8 hours.
- **Hours of enforcement.** The hours of enforcement changed from 8 am to 6 pm Monday – Saturday to 10 am – 8 pm in the Premium Rate Area, and 10 am – 6 pm in the Value Rate Area, Monday - Saturday. The hours of operation reflect the times when businesses are open and parking is in highest demand. The hours of operation were later reduced to 9 am to 6 pm in December 2019 due to concerns from local businesses that charging for parking past 6 pm negatively impacted business.
- **Garage hourly rate changes.** The first hour of parking is free at two underutilized garages to make them a more attractive option among city parking assets. Rates were also reduced from $0.75/hour to $0.50/hour, after the first hour free. The rate at a high-demand garage increased to $1.00/hour.

The City benefited from a strong municipal champion that oversaw the study from start to implementation, provided rigorous information that garnered political support, and conducted extensive outreach that included stakeholder interviews, online and intercept surveys, public outreach meetings, and flyering.

For more info:

https://srcity.org/245/Parking-Management-Study

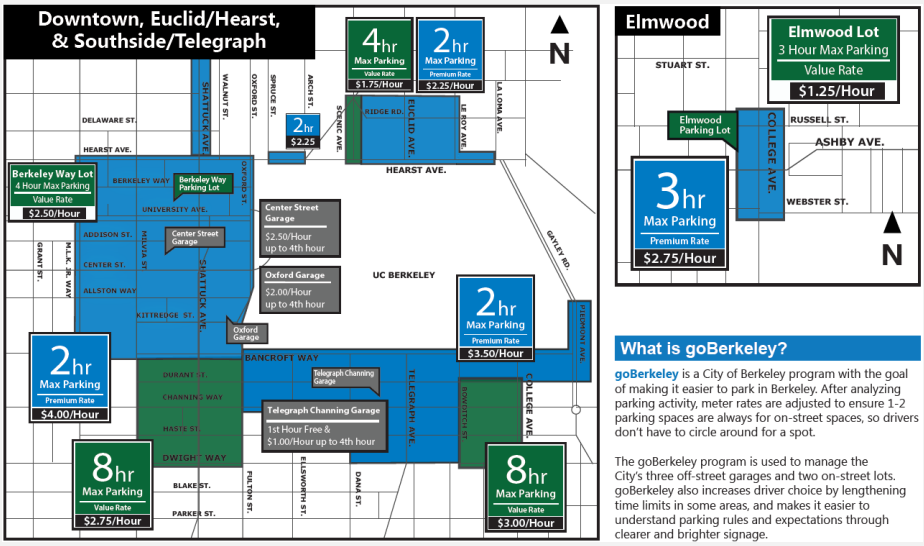
Case Study: Berkeley (goBerkeley)

The goBerkeley program began as a three-year pilot program designed by the city to improve traffic congestion and parking options, and to promote alternatives to private automobiles within the core areas of the City. In the summer of 2013, the City Council authorized adjusting parking rates and time limits at meters, surface lots, and garages in three zones to achieve occupancy rates of 65-85%. An ordinance revising the City's Municipal Code was passed and included the following changes based on existing utilization:

- **Utilization Under 65%:** Lower rates and extend time limits to incentivize use of parking.
- **Utilization 65-85%:** No adjustments required.
- **Utilization over 85%:** Raise rates to increase turnover and/or shift demand.

The pilot program tested a variety of automated data collection and enforcement technologies, including smart meters and License Plate Recognition (LPR) surveys. The program is now reverting to manually-collected data.

The goBerkeley program has proven to be effective in managing parking demand, successful in gaining acceptance and approval from local merchants, and has a lean administrative framework relative to other successful programs. The program has since expanded from three zones (during the pilot) to five.



For more info:
https://www.cityofberkeley.info/Public_Works/Transportation/Parking_Meters.aspx#_goBerkeley

Other Cities

- Redwood City
- San Francisco (SFpark)
- San Mateo
- Walnut Creek

POLICY #10

Parking Benefit District

Used For

- Building stakeholder support for pricing parking, including by garnering input on how revenues are spent.
- Capturing funds to focus parking, mobility, and public-space improvements in areas with paid public parking.
- Demonstrating that the goal of charging for public parking is not increasing municipal revenues, but better access.

Policy Overview

Parking benefits districts (PBDs) are defined geographic areas, typically in downtowns or commercial centers, in which revenue generated from on- and off-street parking facilities within the district is returned to a district organization to finance local improvements. Implementation of a PBD, therefore, is dependent on a city pricing its parking assets. The goal is to effectively manage an area's parking supply and demand so that parking is consistently available and convenient to access. PBDs typically employ parking pricing as a key parking management technique. Returning revenue to the same area improves community support by creating a tangible connection between parking payments and public improvements.

Benefits

- Generates funding for mobility and parking solutions, particularly as parking demand intensifies.
- Creates a constituency interested in cost-effective parking and mobility solutions.

Level of Difficulty: ● ● ○

Impact: ● ○ ○

Implementation Steps

1. Adopt a city ordinance creating a PBD, including the establishment of an "enterprise" fund into which all parking revenue generated within the PBD must be captured, and from which only appropriate district improvements may be funded.
2. Create a governing/oversight body to develop an approved program of revenue expenditures, subject to final approval by City Council. This body should ensure alignment with city goals and can take one of several forms, including:
    - An existing community organization, such as a business improvement district (BID),
    - A newly created private advisory board, comprised of property owners or businesses,
    - An appointed or volunteer advisory board, which could include residents, property owners, businesses, and city staff, or
    - A non-profit community development corporation.
3. Adopt a defined list of PBD revenue expenditures (see Key Features for potential expenditures).
4. Conduct ongoing evaluation and management of PBD policies and expenditures.

Key Features

- **Eligible expenditures.** To ensure the long-term success of a PBD, it is critical that the city gauge the opinion of local residents and business owners to determine how the revenues generated from the district should be spent. Planners should coordinate early and often with their City Attorney's Office on what expenditure types are eligible and how to shape the district funding mechanism to ensure the funds are easily accessible. Potential expenditures that can be financed through PBD programs include a range of the following parking and access related improvements:
  - Construction of new parking.
  - Purchase and installation costs of parking meters.
  - Transit, pedestrian, and bicycle infrastructure and amenities.
  - Leasing of private spaces for public use.
  - Additional parking enforcement.
  - Streetscape improvements and landscaping.
  - Street cleaning, power-washing of sidewalks, and tree trimming.
  - Marketing and promotion of the PBD and local businesses.
  - "Mobility Ambassadors" to provide visitor assistance and additional security.
  - Management activities for the oversight entity.

Pro Tips

- While the concept is appealing, keep in mind that PBDs are a major ongoing investment and need long-term management. Where are parking funds currently going, and how is that communicated? There can be middle ground. For example, the PBD can designate a modest percentage of funds to be reinvested in the parking system. Alternatively, instead of establishing a PBD, a city can better articulate how parking revenues are allocated.
- PBDs are most relevant where a new parking fee or policy is being added (e.g., pricing parking) and stakeholders are challenged by the concept and could benefit from additional hyper-local funds.
- Can be linked to the implementation of priced parking (**Policy #8**) or demand-responsive pricing (**Policy #9**).
- Can help organize shared parking agreements (**Policy #5**).
- Seek synergies with affordable housing (**Policy #3**) to bring affordable housing residents in closer proximity to the public space amenities and mobility benefits typical of such districts.
- Ensure the mechanisms and rules for spending the funds are easy to navigate so that funds do not remain unused.

Case Study: (Redwood City)

- In July 2005, the City Council of Redwood City adopted the **Downtown Redwood City Parking Management Plan** created by the City's Redevelopment Division, Community development Department. The opening of *On Broadway* retail/cinema development on Broadway at the time represented a major shift in the Downtown parking paradigm. The ordinance was adopted in response to a previously underpriced on-street parking that caused "cruising" and traffic congestion. Despite a sizable parking supply in surplus overall, on-street spaces on main arterials like Broadway was at or near 100% occupancy.
- One of the plan's action was to utilize the downtown meter revenue exclusively for downtown parking and other improvements. The plan also called for establishing a fair market rate for parking price, eliminating time limits to prevent "shifting parking", and simplifying the downtown parking permit program. The parking meter revenues generated from on-street and off-street are accounted separately from other City funds and have specific uses specified. The parking meter revenue can be used control of traffic for pedestrian and vehicle safety, comfort, and convenience, and other expenditures within or for the benefit of Downtown Meter Zone.

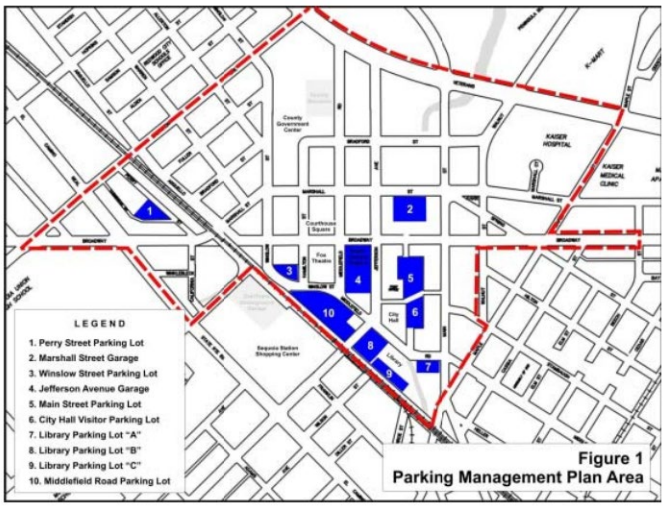


Figure 1
Parking Management Plan Area

For more info:

[The Downtown Redwood City Parking Management Plan 2005]

Case Study: (South San Francisco)

In South San Francisco's Downtown Parking District, the city can establish a **parking mitigation fund**, that allow in-lieu fee from providing on-site or off-site parking. The fund can be used to acquire off-street parking facilities, purchase mass transit equipment, discount transit fares, and support transportation system management projects. The FY 2019-20 Adopted Budget scheduled a $25,000 transfer from Parking District Fund to the Capital Improvement Program (CIP)[5].

For more info:

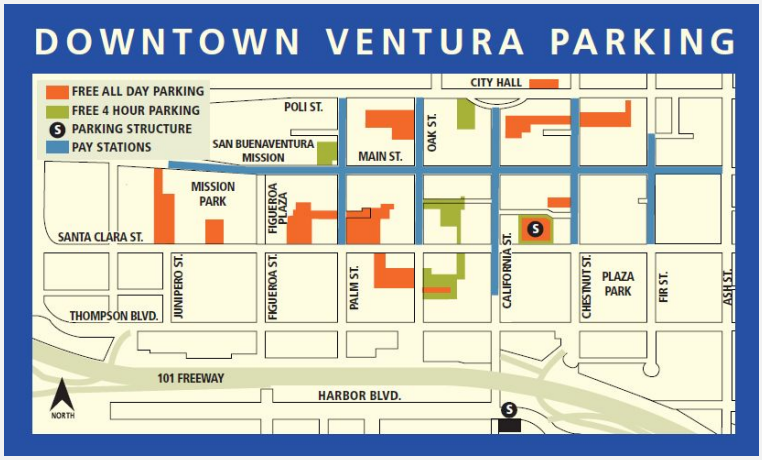
[Biennial Operating Budget & Capital Improvement Program FY 2019-21]

Other Cities

- Pasadena, CA
- San Diego, CA
- Colorado, BO

[5] https://www.ssf.net/home/showpublisheddocument/16797/637024977723470000

Case Study: (Ventura)



In March 2007, the City Council of San Buenaventura (commonly known as Ventura) approved the Downtown Specific Plan, which included plans for a parking management program. The City Council later adopted an ordinance in January 2009 to establish the **Downtown Parking District (DPD)**, which requires all revenues generated from the parking program to be used for public facilities and services benefiting the district. The ordinance was adopted in response to a perceived lack of parking, limited funding for enforcement, misused loading zones, and existing parking lots that were in need of upgrades and maintenance. In addition, the ordinance allows the City Transportation Manager to adjust parking rates based on occupancy in order to achieve the district's parking occupancy goals.

In September 2010, the City begin charging for parking on the downtown district's two main retail arteries, Main Street and California Street. A total of 318 on-street meters were placed on "high-demand" block faces, or about 11% of downtown's parking supply, where turnover was key for downtown businesses. Time limits for the newly metered spaces were eliminated, with the City relying instead solely upon pricing to meet its parking availability goals for each block.

Meter revenues funds what the City describes as "a cleaner, safer downtown for everyone." This included funding a new police officer dedicated solely to patrolling downtown, as well as a team of nine police cadets dedicated to downtown security and parking enforcement. The meter revenues also funded improved lighting and landscape improvements for downtown streets, parking lots and garages, to improve the perceived safety of downtown. In FY2020-21, the Downtown Parking District funded $275,000 of Capital Improvement Projects.

For more info:

Downtown Specific Plan 2007

POLICY #11
Curb Strategy

Used For

- Restructuring priorities for curb uses based on city priorities and access needs, including mode split goals and extending street modal prioritization to the curb.
- Ensuring curb decisions support transit, bike, and freight networks.
- Creating a method for ongoing curb space assessments and criteria for pilots.

Policy Overview

A curb strategy is a blueprint for aligning curb allocation with access and travel needs and addressing overall management approaches for all modes at the curb. Curbs tend to have a default allocation (parking or vehicle lanes) and may only get major attention in reaction to a sudden pressure, such as an increase in ridehailing congestion at the curb.

Developing a strategy creates a more thoughtful methodology for making changes in how the curb is allocated, how to sort out modal conflicts, how frequently it should be updated, and how to generally take a holistic lens at curb pressures.

Benefits

- A holistic, multimodal curb strategy prevents distraction from the latest curb lobby or "emergency."
- Curbs that focus not only on vehicle parking but that support other modes, as well as space for people and goods, better support equity, safety, and mobility goals.
- As land uses change, demand for curb space changes along with them. Proactive curb management can better integrate land use and transportation.

Level of Difficulty: ● ● ○

Impact: ● ● ○

Implementation Steps

1. Review existing curb regulations and best practices, and connect with local stakeholders who interact with the curb daily to frame the challenges and needs and define the scope of the strategy or plan.
2. Collect curb data based on scope of goals. This may include an inventory that counts assets and a utilization study that measures demand. Curbs are multimodal, so use multiple data sources for a full picture of curb dynamics.
3. Hold technical meetings and internal workshops to develop a framework that includes management strategies, policies, and tools. Contents will vary by scope but may include a curb allocation framework to guide decisions about how space is used and different uses are managed; organizational structure guidance such as enforcement challenges; and design guidelines for curb changes.
4. Re-engage with stakeholders to assess the framework and gather feedback on how and to what extent they can ease challenges.
5. Establish clear allocation and management processes, fine tuning approaches from Step 3 with further input. Prioritization of different curb uses is central to a curb strategy, though may vary given operating, enforcement, pilot, pricing, and other curb management details a city may need to address in a strategy.
6. Pilot potential curb access and management solutions while collecting new data to test outcomes. Document successful pilots and learn from or adjust those that were not.

Key Features

- **Improved Access.** A well-managed curb facilitates the movement of the highest number of people and goods. Eighty feet of curb can serve just four cars, but the same amount of space can support an entire bus – this space being devoted to transit would allow up to twelve times the amount of person-access than if the space were occupied solely by cars.
- **Data Inventory.** Collecting and monitoring curb data creates opportunity for more comprehensive and responsive curb strategies.
- **Proactivity.** Allocate curb space based on demand, with consideration for loading space, micromobility corrals, bike parking, and short-term parking. Make enforcement a priority and proactively cite for loading zone infractions.
- **Enforcement.** On-street parking events are generally difficult to enforce – and non-parking curb priorities are even more challenging. Shorter dwell times make enforcement more difficult. Curb data has come a long way, but enforcement is still generally reliant on in-person follow-up, even if directed by data or technology. This will remain a perennial challenge. Some curb pilots now use camera devices to track enforcement, but effectiveness remains to be seen. Cost and ruggedness are obstacles to scaling such technologies. Networked enforcement mechanisms (e.g., through a cell phone or app) better match short duration curb events.

Pro Tips

- Start with clarity on what curb pressures (and opportunities) are most important to your community.
- Remember that current curb pressures are layering atop decades of car-centric curb policies. How we allocate space also plays a role in inducing different uses. Cities often have to determine: are we responding to current pressures or creating the mode split we want for the future? Consider how your curb allocation is currently serving your mode split goals – does it represent that direction?
- Seek synergies with the removal of parking minimums (**Policy #1**) to address concerns about impact on nearby streets (spillover) from future developments.
- Include a systems level view – don't only follow block-by-block demand, or else systems like transit and bike networks won't compete for space in the way they need to in order to succeed.
- The curb can be a physically demanding place – pilots must be ruggedized and scalable.
- Focus is key. There are many start-ups and private ventures pitching confident solutions to cities. Some cities have seen overall curb strategies stalled by free pilots or similar detours pitched to address curb solutions. Some prove useful, but some stall overall progress. Most cities have limited staff capacity to implement curb policies and programs and thus too many outside distractions can slow implementation.

Case Study: San Francisco (SFMTA Curb Strategy)

In February 2020, the San Francisco Municipal Transportation Agency (SFMTA) released its Curb Management Strategy Report, which outlines a detailed approach to managing the curb within San Francisco. This report lists the following six objectives as key strategies to better curb management:

1. Advance a holistic planning approach
2. Accommodate growing loading needs
3. Increase compliance with parking and loading regulations
4. Improve access to up-to-date data
5. Rationalize policies towards private users of curb space
6. Promote equity and accessibility

Other Cities

- Seattle, WA
- Toronto, ON
- Washington, DC

Within each objective is a set of sub-objectives that are qualified by timeline length, level of effort, and level of impact. Through these metrics, practitioners can refer to this report to help guide curb management outcomes based on varying time and effort capabilities, making it a powerful tool for any locality interested in analyzing its own curb management practices.

According to the SFMTA's curb management page, the agency has conducted the following pilot projects in response to the new curb management framework:

22nd Street Caltrain Station: The streets around this important transit hub had no parking regulations. Staff added passenger loading zones, dedicated motorcycle parking, secure bike parking, and parking meters in the surrounding area to make it easier to safely access the station.

Oracle Park and Chase Center: The SFMTA implemented new loading zones near the San Francisco Giants stadium and worked with taxis and transportation network company (TNC) providers to ensure drivers and riders use them correctly. Similarly, the curb management team worked with other parts of the Agency and external stakeholders to develop an extensive curb management plan for the area around the Chase Center, the new Golden State Warriors basketball arena, before it opened in 2019. Those changes helped ensure that transit, bikes, and traffic continue to flow smoothly, even during major events.

Inner Sunset: In January 2020, the SFMTA Board approved the Inner Sunset Curb Management Project, a community- and merchant-led project to improve the allocation of loading and parking regulations in the busy neighborhood commercial district around 9th Avenue and Irving Street. The project will be implemented later in 2020.

10th and 11th Street: On 10th and 11th Streets just south of Market, there was very high passenger loading demand but little space allocated to it, so people double parked in the bike lane, in front of the bus, and in the travel lane. In 2019, staff reconfigured the curb to create larger, more usable passenger loading zones, as well as improving the Muni flag stop, adding commercial loading and short-term parking space, and realigning travel lanes to improve safety. Other similar improvements have been made on streets throughout the greater Downtown area associated with the early implementation of Better Market Street in early 2020.

For more info:

SFMTA Curb Management Strategy Report

POLICY #12

TDM for New Development

Used For

- Ensuring new developments match local mobility goals.
- Improving mobility options for future site users.
- Reducing parking demand and costs – which can improve affordability of projects.

Policy Overview

An increasing number of cities are adopting new municipal code ordinances that mandate TDM actions on the part of developers, property owners, and/or employers. The most common approach is through a zoning code update that adds an ordinance identifying the types of development projects that must include a TDM plan to be approved. Another common approach is to adopt a specific ordinance that identifies the types of properties that must implement TDM measures to mitigate transportation impacts.

For zoning code TDM requirements, a formally approved TDM plan, fixed requirements, or a points-based suite of strategies are used. The requirement is incorporated into the approvals process for development proposals. Trip reduction ordinances can include existing uses, but also sometimes apply only to new developments.

Benefits

- Builds in more travel options.
- Makes it less expensive and easier to use sustainable travel modes.
- Reduces parking demand, reducing costs.
- Reduces single-occupancy vehicle trips, traffic congestion, and greenhouse gas emissions.
- Employee retention.

Level of Difficulty: ●●●

Impact: ●●●

Implementation Steps

1. Establish TDM policy goals that extend from broader local and regional mobility goals (e.g., mode split targets).
2. Consider policy options through scan of peer models and available research to identify policy features.
3. Build support and solicit feedback through stakeholder focus groups, surveys, and community partnerships.
4. Review travel patterns and preferences to inform policy features.
5. Determine the geographic areas, land uses, and development scales that will not be subject to TDM and if it is required and/or simply allows for reductions in the amount of parking provided.
6. Identify potential strategies and incentives and determine the level of effectiveness for each to develop a scoring system.
7. Involve key leaders in draft policymaking and approval process to ensure buy-in and craft messaging.
8. Establish minimum required TDM elements (see Key Features) and set fees as needed for associated administration and non-compliance.
9. Communicate the change and new policy to stakeholders clearly – this usually involves ongoing outreach to developers to ensure projects use the policy well to maximize outcome.

Key Features

- **TDM Elements.** Requirements may vary by location to account for differences in land use mix, density, and multimodal access. Typically options span physical features, promotion/information, and programs/services. Potential elements include:
  - Paid parking or unbundled parking from residential and commercial leases (**Policy #6**).
  - Subsidies for sustainable commute modes (e.g., transit, carpool/vanpool, walking, biking, car-share, micromobility).
  - Pre-tax commuter benefits for employees.
  - Priority rideshare parking.
  - On-site bike repair stations, showers, and lockers.
  - Transportation Management Association (TMA) membership, where applicable.
  - On-site transportation coordinator.
  - Individualized marketing.
- **Enforcement.** Approaches to non-compliance are varied and consists of written citations, fines, and/or closure of a parking facility until compliance. Regardless of what approach is chosen, the city should work closely with applicants to assist with compliance. To ensure compliance, approved TDM plans should be required before the relevant approval or milestone for your city's development approval process (e.g., before a Certificate of Occupancy is issued). Post-occupancy, projects should provide annual reports demonstrating that all approved measures continue to be implemented. Monitoring may also include site visits as needed.
- **Monitoring and reporting.** Reporting is helpful even if not a condition of approval – capturing future outcomes data will help the city refine details of the policy based on local effectiveness data. The City should think about how to gather, store, and use this data to garner insights.

Pro Tips

- Pair with removing parking minimums (**Policy #1**) to further incentivize multimodal options. TDM measures may not be well-used if parking remains oversupplied and free.
- Supports and aligns with SB 743 requirements for VMT analysis and mitigation.
- Ensure that goals of the TDM policy reflect local and regional mobility goals.
- Be mindful of how TDM policies and parking policies relate – it varies in case studies, reflecting different underlying assumptions about how parking and TDM measures should interact. Think through how they relate in your area carefully, including how the TDM policy would function if parking policies change significantly. It can be frustrating to outside stakeholders to see conflicting messaging – e.g., a parking policy that requires a certain supply but then a TDM policy that penalizes it. Aim for long-term consistency and credibility on these evolving policy topics.
- Points-based approaches have been gaining favor for their simplicity in interpretation.
- TDM works best at scale – allow some shared/district measures if possible.
- Vet core concepts with the City Attorney's Office early on. A common mistake is waiting until final review – only to find out that a component, such as requiring TMA membership, is not permissible. Details of what is permissible will vary by city.
- Establish standards for the provision of required elements to improve outcomes, assist stakeholders, and keep mobility elements of high quality.

Case Study: San Francisco

In 2016, the City of San Francisco adopted Section 169 Transportation Demand Management Program and it went into effect on March 19, 2017. Most recently, on March 11, 2012, the Planning Commission approved substantive amendments to the TDM Program by creating a *Limited TDM Plan* option for low-density residential projects. San Francisco's TDM Program Standard is currently on its 3rd version.

The TDM Program is one of the three policy initiatives prescribed in the Transportation sustainability Program, developed under interagency partnership between the San Francisco Bay Area, the San Francisco Planning Department, the San Francisco County Transportation Authority, and the San Francisco Municipal Transportation Agency. The primary goal is to reduce VMT from new development to maintain mobility and San Francisco continues to grow, and to achieve better environmental, health, and safety outcomes.

The City uses a weighted, points-based model to establish targets that indicate the level of TDM requirement to which a developer must adhere. Targets are based on proposed land uses as well as the number of accessory parking spaces proposed. The more accessory spaces proposed for a land use, the higher the target. To reach the target, developers work with the city to select TDM measures from a menu of options. To set points for each TDM measure, San Francisco used a combination of relevant literature and local data. Some developments, such as very small residential projects and affordable housing developments, are exempt from these requirements.

San Francisco's program is one of the few that explicitly requires periodic compliance reports from developments and all TDM program impacts are available for public consumption. As of March 2021, there have been 240 TDM cases submitted since 2017. More than half are from Residential Developments, with majority of developments choosing Bicycle Parking (ACTIVE-2), On-Site Affordable Housing (LU-2), and Car-share Parking and Membership (CSHARE-1) as top three TDM strategies pursued.

For more info:

Citywide Transportation Demand Management Program

Version 3, Standards for the Transportation Demand Management Program

2021 Q1 March Monitoring Reports

Case Study: Hayward, Alameda

The Hayward 2040 General Plan's Mobility Element identifies Transportation Demand Management as one of twelve goals. By encouraging TDM strategies and programs, the city of Hayward is looking to reduce vehicle travel, traffic congestion, and parking demand. One of intentions for Hayward to encourage TDM strategies are to accommodate future growth in areas that are urban and built, where there are limited opportunities to widen intersections or roadways. Most recently, the adopted 2019 City of hayward Downtown Specific Plan also includes guiding principles from TDM to "stimulate economic development and support a vital and growing Downtown".

Though the zoning ordinance only prescribes credit for transportation systems management program for Employee-based strategies, the General Plan notes that they are to implement both a Citywide and Regional TDM Program (Alameda County Commission Travel Demand Management Element of the Congestion Management Program). The Zoning Code notes that development may reduce up to 20% of required employee parking if they provide an Employee Transportation Coordinator and implement 13 items listed under the Transportation System Management Program.

Employer such as Kaiser Permanente has been running its TDM program since 2007. Residential Mixed-Developments *SoHay* that consists of 400 townhomes, 72 apartments, and 20,000 sq.ft. of leasable retail space also submitted a TDM plan in 2018. The project estimated a nine percent VMT reduction. *California State University East Bay* created its TDM plan in 2009 as well, estimating up to eleven percent VMT reduction.

For more info:

Hayward 2040 General Plan

SoHay Mixed-Use Development TDM Plan

California state University East Bay TDM Plan

Other Cities

- San Jose
- San Rafael
- San Carlos
- Morgan hill

3 ADDITIONAL IMPLEMENTATION GUIDANCE

Parking policy implementation can be challenging. However, previous implementers have learned from common hurdles and there are many lessons to help improve the process. For this project, we surveyed and gathered a cohort of Bay Area parking leaders across different place types and city sizes. They noted the following common challenges:

- Public perception of a lack of parking
- Public perception/actual lack of travel options
- Public/decision-maker concern over neighborhood spillover
- Business owners' concerns over diminished retail competitiveness
- Lack of staff capacity
- Lack of parking data and/or cost to collect the data

INGREDIENTS FOR SUCCESS

Parking policy change and implementation are notoriously challenging. Lessons learned from past similar projects can help avoid common hurdles and build successful projects. While context shapes specific details, some common themes emerge from recent successful parking projects – and those experiences are highly valuable to those embarking on upcoming parking policy changes.

Updating parking policies takes vision, leadership, persistence, and intensive internal and external communications. On-street parking projects use data and technology in innovative but lean ways. They also have the added complications of operating assets in rugged street environments, requiring more internal operations coordination for successful long-term operations. Off-street parking policy reform must overcome even greater data hurdles and require extensive engagement and education to develop code and policy.

Based on past implementation efforts, we know the following are important:

- **Leadership support.** Commonly cited as a key ingredient for success is the presence of an executive champion for the relevant parking policy changes. Parking is a challenging topic, and support for the staff leading changes is invaluable. This person does not always need to be in the direct chain of command (though that is ideal) but must be influential. If leadership is not on board, spend time sharing data and best practices to gain support.
- **Dedicated champion.** Parking policy changes require more effort than one might predict. These implementation projects are challenging and typically take a highly motivated staff leader with a dedicated focus. Often this person can be described as a "practical innovator" – someone who is willing to question processes (there are many legacy parking practices that no longer align with current goals and best practices) but who is ultimately a team player, inspiring and collaborating with diverse practitioners to move in the same direction.

  For on-street parking project implementers, they will also apply a pragmatic eye to data, technology, and operations components in greater detail. Coordinating operations units is a core strength of this type of role; a parking policy champion should have a respect for and command of operations aspects – including enforcement, which is challenging but important. The drive for implementation is an important ability and should be a high priority when staffing team members. Parking policy staff often experience setbacks in their work – remaining persistent and addressing questions and setbacks with humility, patience, and additional data is key. While a dedicated champion and leadership support are most important, a project management team that coordinates across diverse groups – especially during the project development phase – can be valuable too.
- **Confidence in vision and execution.** People naturally compare parking policy proposals to the well-worn path of the status quo. Although necessary, change manifests as risk, and gaining buy-in requires planners to paint a picture of better outcomes. Because parking discussions can take a negative tone, it is important to bring a confident voice to parking proposals when conducting outreach to key stakeholders and the general public. Articulating and centering discussions on shared goals is essential. Planners must have patience and humility (in addition to confidence) when addressing concerns and criticisms, bringing data and transparency about trade-offs to each conversation, along with a dedication to the policy vision and implementation details.

- **The right amount of data.** There are many preconceived notions about parking systems and mobility trends, often colored by our least positive experiences. Obtaining and using good data early on (such as in the form of an inventory, utilization, or intercept surveys) helps ground the project team and stakeholders in tested findings. Getting the right amount of data is equally important – it can be tempting to analyze everything. However, focused, quality data sets are more important than fine-grained data that goes unused and is expensive to collect. With limited resources, it is most important to define the minimum data needs for current and near-term projects and policymaking as early and as clearly as possible.
- **When in doubt, simplify.** In many cases, parking regulations have evolved in an ad hoc manner, varying block by block and creating confusion and making enforcement challenging. While tempting to add variance after variance, simplification can provide benefits to parking managers and, more importantly, the average user.
- **Pair policy changes with good user experience.** Most people remember bad experiences with parking systems in general and extend that negativity bias to your system. Perhaps they encountered inconsistent rules or enforcement approaches, or confusing information. Overcoming that trust barrier by improving those details is helpful to any new parking policy, especially public assets or shared systems. One way to do that is through pairing policy changes with user improvements. This signifies that the city cares not only about a policy outcome, but also the daily experience of users. When a rebranding is being considered, including both user experience and policy changes together is best. Common user complaints typically include confusing rules, difficulty avoiding citations, poor wayfinding, or confusing signage.
- **Transparency and Credibility.** Parking principles and policies have generally been evolving, but there can be outdated practices that are not aligned with new policy direction. Make sure the implementing agency and city departments in general are demonstrating credibility by updating their own practices first as a sign of good faith to external stakeholders who are being asked to support citywide parking policies. For example, giving free parking to city employees while asking the general public to pay should be amended to ensure fairness and transparency are the norm.

COMMUNICATIONS STRATEGY

Communicating about parking is notoriously challenging – although a critical policy tool, it is often viewed as 'taking something away' and thus triggers reactionary responses. To make matters more challenging, policymakers and leaders may not be fully versed on the role parking and its relationship to achieving local goals and may also miscommunicate parking policy challenges and opportunities. A simple communications plan can help address these challenges. This should be a brief working document used by all potential spokespersons for the initiative. The goals are to:

- Gain support among decisionmakers and key stakeholders for the program.
- Ensure project representatives (including executives and across departments) are saying the same – and accurate – statements about the policy change or program.
- Stay ahead of the fact that parking messaging is difficult by socializing the most important information well in advance.
- Help make the material and projects more accessible by explaining and discussing parking in public-friendly ways.
- Plan for the launch of the strategy, ensuring it runs smoothly and preparing for different project phases.
- Plan for ongoing communications.

A communications plan can be as simple as a short document to get project representatives from multiple levels/positions/agencies reading from the same page, literally.

Communications Plan Elements

Below are some specific template elements that can be used to shape a communications plan around a parking change.

1. **Purpose:** A short statement – why is the change being recommended?
2. **Strategy Recap:** Brief strategy/action recap – what are we trying to accomplish?
3. **Key Messages:** Focused, short list of "elevator" pitches – what is essential for people to know?
   - Frame benefits in terms that are meaningful to the daily life of users – how will this policy benefit their lives? Avoid only abstract or high-level reasons.
   - Separate parking pricing conversations from revenue conversations.
   - Describe the scope of the change and what is affected, such as program geographies and project types.
   - Tie the program to bigger goals – explain the connection.
4. **Brand Identity:** Parking programs and policy changes often elicit negative responses because the public envisions pain points and worst-case scenarios. People think of getting tickets, short time limits, parked cars flooding their streets, etc. Parking policy change requires earned trust or faith that the system can operate differently. Sometimes a brand can help reset a system's reputation – mainly for on-street initiatives but can extend to off-street if appropriate. For example, Berkeley created the goBerkeley brand to signal changes in management for on- and off-street public parking assets. Similarly, San Francisco did the same in creating the SF*park* brand.
5. **Partners and Personas:** Identify the groups that need project information or to be consulted. For general users, you can list the types of users to make sure you are communicating the program in terms that are relevant.
6. **Communication Channels:** What material needs to be created to support this initiative, and who is the audience?
   - Transparency is critical to gain trust. Many people have had poor experiences with parking and its enforcement. Transparency and background documentation are critical to gaining buy-in over time to build a better system.

- A project or program website helps. A project site should include a summary of project activities, meetings, materials, and reports. A program site is more involved – it should also have trackers for ongoing performance metrics outcomes, data feed links and explanations, and clear direction on program outcomes. For example, a demand-responsive pricing program site should post all price and time limit adjustments and the data behind them.
- Identify your target audience by thinking through who needs to be coordinated with.

7. **Steps and Schedule:** A simple list where action steps are noted and scheduled in the same place, and exact communications steps are defined. Communications steps vary by project stage, which may include:
   - Designating a champion / implementation leadership team (Who needs to be on board and in leadership to succeed in implementation?)
   - Approval (What steps in what order and timeline are needed to get the policy change approved?)
   - Launch (What steps go into program launch?)
   - Implementation (What are all the operational steps that need to be conducted for implementation of the program beyond launch?)
   - Operations (What are the new operational duties and functions created by this program and who will operate the program on an ongoing basis after implementation?)
8. **Frequently Asked Questions (FAQs):** Should consist of two related sets of FAQs: a longer, internal-facing set and a second, more condensed version for posting online. The longer set can be used to prepare transparent responses to all anticipated questions. This should be shared, and key questions briefed, for all potential champions. Content will vary depending on whether a study, program, or pilot launch is being conducted, but generally a candid, confident tone is best. It is okay to admit where a program can be improved – transparency is key to building trust.

DATA APPROACHES & TIPS

Nearly all parking policies discussed in the policy briefs require parking data collection and analysis to assess the current conditions and evaluate policies across various impacts, such as on land use, housing, economic health, emissions and climate outcomes. Parking policymaking has generally suffered from a dearth of good data and addressing that gap has been the first step for many successful parking programs. When it comes to data, it is important to keep in mind that:

- Most cities are unaware of how much public parking they have, let alone the off-street private supply. This is a huge hurdle because the amount of parking available and how it is managed has an enormous effect on travel patterns. Who provides parking and how it is dispersed is important. The vast majority of private parking is unshared and dedicated to a singular use.
- Without good data, the default attitude toward parking seems to be "never enough." Parking can be a sensitive topic, and standards and values around how much is enough vary widely. However, the costs of overproviding parking are compelling when it can be counted and described effectively.
- Good data helps uncover more opportunities. For example, a community worried about losing on-street parking spaces to a bus lane would be relieved to know there are hundreds of available spaces within two blocks, where those spaces are, and who they are available to.

As important as data is, it is also easy to be distracted by the never-ending permutations of potential data that can be collected. Different sources vary in their usability and cost. Most implementers overestimate the complexity and detail of data they need – the fundamentals are important, but perfection is not.

Both on- and off-street parking policy changes rely on good base data to assess utilization and other trends.

Inventory. Successful programs start with some type of inventory – the adage "you can't measure what you can't count" is true.

- On-street parking involves counting and categorizing each space. This can be done citywide or only within paid parking areas or other focus areas to use funds conservatively. Human-collected data (i.e., "clipboard style") has been the most common approach.
- Planners should be honest about how much data they need. It can be tempting to overcount many asset types, but not all of it will be used. Data platforms may become unwieldy to use and capturing too many asset details can bloat costs. However, other options exist. Aerial imagery can capture inventory for areas with clear sight lines and high value snapshot dates – particularly for tasks that do not require many data fields. For example, it is likely to work better for a non-urban land use, whereas a downtown block has more nuance to capture. High level inventory data at a broader scale, even if it varies by area, is incredibly valuable.
- Before any data is collected, the plan for entering, storing, using, and maintaining it should be identified. Much municipal data has been collected in the past only to grow outdated and unused because there was no plan or process established to make the data usable and accessible. There has been some distraction in this space too with vendors promising new technology-enhanced, big data collection. It seems that those who have relied on the basics, however, have most quickly and successfully advanced their programs.
- Capture parking regulations and restrictions and people who can use the parking supply. Often there is excess supply, but much of it is restricted to specific users. Getting a firm understanding of those nuances helps drive policy solutions.
- Off-street private parking inventories are more challenging. Restriction and access levels vary, and entry is unreliable. However, this data can be collected several ways: through development project plans, TDM requirements, and outreach to a property manager if access prevents a physical inventory. Research and data platforms available online (e.g., TransForm's GreenTRIP program) have helped to make this type of information more available. Estimates can also suffice when needed. It is more preferable to have good estimates than data gaps.

Utilization. Given that parking facilities in our communities are historically overbuilt, knowing how much they are used is critical. Good utilization data can shape critical policy questions, including how parking demand varies between different areas such as those nearby transit; how much parking developers are overbuilding and where; and where is parking is full versus empty. Past planners have looked at how much parking is provided by peer cities or estimated demand from national sampling provided in the Institute of Transportation Engineers Parking Generation Manual – not how much is actually used. Despite it being the most critical metric for parking policies, utilization data is difficult and resource-intensive to collect. Some important aspects to consider when collecting on- and off-street utilization are:

On-street Public Parking

- Are there spaces available? Is the parking supply underused/overbuilt? How much parking does this facility really need? These questions are at the heart of parking reform efforts and rely on utilization data to be answered.
- Utilization can be framed as occupancy or availability.
- An occupancy study ideally includes both on- and off-street parking occupancy data to understand the whole parking ecosystem and bring holistic solutions. Counts generally should be conducted within a few weeks of each other and avoid unusual demand days (holidays, Mondays, Fridays), depending on what times are most critical to solve for.
- There is always more data than you can collect, so think carefully about what information is most important to collect.
- Utilization is a better metric than turnover. It answers the question "how much is this asset used or available" as opposed to "how long do people stay." The former is more important as a policy outcome. Turnover helps add detail, estimating who is using parking spaces and why, but it is more labor-intensive to collect. A smaller sample of turnover data can often be more efficient when some length-of-stay data is desired.
- There are several options for collecting utilization: manual counts, sensors/gate data, and meter data are most common. Newer methods leveraging modern technologies have emerged (e.g., passive license plate recognition (LPR) capture from cameras conducting enforcement; AI-informed counts through technology products) but accuracy, scalability, cost, and privacy concerns have so far inhibited their widespread adoption.

Off-Street Parking

- There is a general lack of available data on how much parking is utilized in private parking facilities. Regional databases such as the GreenTRIP Parking Database (Bay Area) and Right Size Parking Calculator (Seattle region) have helped, but there is no tool or incentive for developers to publish this information routinely. Collecting it is a challenge – though some facilities now have counters that could make it much easier.
- Some TDM programs for new developments have begun to require annual reports that will help establish more touchpoints.
- Multiple parking studies have found that even areas that appear to have a parking crunch actually have an underutilized supply.
- Shared parking provisions rely on inventory and utilization data to identify opportunities. Successful ongoing operations are also dependent on good data sharing processes.

Data Platforms, Storage, and Pilots

There is a plethora of new data products available to help cities manage their on-street parking programs. Cities may choose to develop their data platforms in-house or use a vendor. Still, other cities may rely on enhanced features from the backend software systems that supports all smart meter products.

- When using a third-party platform, future proof your needs by ensuring you set up the data structures in a transferable way and that the city owns the data and has a clear extraction means should they change platforms in the future.
- Many vendors offer free trials or pilots. Many vendors are also strong at operating pilots and measuring outcomes (e.g., vendors operating pilots to manage loading zones using camera-based enforcement). While vendors may offer attractive and even valuable products or services, distraction can be a liability. Balance interest in learning from what works with focus and scalable solutions.

Data Standards

There has been increasing discussion of data standards for parking and curb assets: however, these primarily focus on short-term activities at the curb. Today, most cities use curb paint and signage to let drivers know where to park or pull up curbside to pick-up/drop-off goods and people. Cities can improve people's experience navigating curb rules and making decisions on how and when to use curb zones by creating, maintaining, and sharing accurate, standardized data that describes the location and rules of specific curb space. Examples include parking spaces, commercial loading zones, bus stops, and other curb uses.

The Open Mobility Foundation is working on a Curb Data Specification that will provide cities with a common data standard to share information on their curb space with the public, including developers of delivery driver routing software, mobile trip planning apps, and in-vehicle navigation systems, to make is easier to get accurate information on local rules and priorities for curb spaces. On a similar track, the International Parking & Mobility Institute (IPMI), a professional organization serving municipal parking managers, participates in the Alliance for Parking Data Standards.

The value of these data standards is in anticipating that many potential curb users can have a better experience if data is better shared to fuel adoption of new curb uses (car sharing, ride sharing, micromobility services, loading access) but also interface improvements (prepaid parking, dynamic pricing, improved reporting). It is possible that these standards can speed adoption of some curb access innovations, but they should not distract from local initiatives. Generally, these national or international standards tend to match best practices for on-street data collection. To align with these standards, on-street parking and curb managers should strive to inventory physical curb assets at the point level whenever possible (like meter posts, parking regulations sign, and bus stop signs) and maintain polyline or polygon data to help calculate or express curb space dimensions at the user level. Additional universal principles of on-street inventories include collecting by block or block face and assigning unique IDs for each asset.

Performance Monitoring

What does success look like? Using data to define this is important for parking changes. Simple metrics are typically best. Utilization is the most valuable performance metric across both on- and off-street parking policies:

On-street Projects/Pilots

- The **ideal occupancy target is around 85%,** though project metrics may vary based on data collection methods, which reflect the experience of looking for a parking space slightly differently.
- Utilization can be framed as occupancy of availability – they are simply the inverse of each other. It is best to use the term most meaningful to the pain point or value toward meeting broader goals.
- Aside from utilization, other valuable metrics can be broad, ranging from economic impacts (though challenging to do a controlled experiment for this category) to emissions estimates. Time spent searching for parking can also inform impact on emissions. It can be time-intensive, and the quality of data is dependent on good route design. Pairing this metric with utilization provides a fuller picture.

Off-street Projects/Pilots

- It is easier to identify specific outcome targets for one facility or a small grouping of facilities – you want your parking assets utilized but not completely full – so **90% utilization** is the industry target.
- District or citywide metrics are much more challenging, but valuable. Some parking studies capture the full view, leading to more opportunities for different parking management solutions, such as sharing resources. Although difficult, this approach is recommended for subareas of high value. Parking is systematically overprovided in many of our communities, and proving it takes effort and funding.

Sample Parking System Performance Metrics could include:

- Parking Occupancy
- Parking Availability
- Amount of Time Parking Occupancy is in Target Range
- Double-Parked Vehicles
- Mode Split
- Parking Search Time or Distance (and associated vehicle emissions)
- Citations (assuming robust enforcement, fewer citations can generally be a sign of a healthier parking system)
- Percent of Parking Shared
- Travel Cost and Time by mode
- Parking Demand Reductions or Vehicle Miles Traveled Reductions (associated with TDM interventions at new developments)

APPENDIX A

Sample Code Language

Appendix A - Table of Contents

Policy #1 Reduced Parking Minimums

Mountain View (North Bayshore)

North Bayshore Precise Plan 6.11 Off-Street Parking Requirements Standards

1. **Minimum parking requirements**. No minimum amount of parking will be required in North Bayshore.
2. **Maximum allowable parking**. Projects shall follow the maximum parking requirements in Table 23.
3. **Residential parking maximum exception**. Residential projects requesting a higher parking maximum than permitted by the Plan shall submit a parking study completed by a traffic engineer. The request shall follow the process and requirements outlined in Section 3.5.6 of the Plan (Development Standard Exceptions). The parking study shall include a justification to support an alternative parking maximum. The study shall include, but is not limited to, the following: comparison of parking rates between the proposed project and similar projects, including density, mix of units, FAR, market data, office/residential internalization rates, available TMA services, and TDM strategies; and a confirmation that surrounding commercial parking facilities are infeasible to be shared by the proposed residential project. Information from the City's North Bayshore District transportation performance monitoring, including recent transportation infrastructure improvements, may also be used to help inform a project's specific parking ratio.

The study shall also include a strategy for monitoring and reporting parking usage at the site, and shall recommend a process and design strategy for eliminating and converting excess parking spaces to other uses, such as usable building area, electric vehicle (EV) charging or car-share spaces, personal storage, bike parking, amenity areas, landscaping, etc.

Table 23 Maximum Parking Requirements

Land Use	Maximum
Office/Research and Development	2.7 parking spaces per 1,000 sq. ft. of gross building floor area
Institutional (Performing arts, museums, etc.)	No maximum
Retail/Commercial less than 1,000 sq. ft.	No maximum
Retail/Commercial greater than 1,000 sq. ft.	Equivalent to the Institute of Transportation Engineers Parking Generation manual peak period parking demand for the most comparable land use as determined by the Zoning Administrator. The peak period may occur during the a.m. peak period or the p.m. peak period depending on the land use.
Residential	Parking ratio maximums by unit type: Micro-units[6]: 0.25 spaces/unit 1 BR: 0.5 spaces/unit 2 BR: 1.0 spaces/unit 3 BR: 1.0 spaces/unit
Other uses, including residential guest parking requirements	As determined by the Zoning Administrator

[6] Up to 450 sf and without a separate bedroom.

San Francisco

Planning Code Article 1.5 Sec. 151 Schedule of Required Off-Street Parking Spaces

a. **Applicability**. Off-street parking spaces shall be provided in the minimum quantities specified in Table 151, except as otherwise provided in Section 151.1 and Section 161 of this Code. Where the building or lot contains uses in more than one of the categories listed, parking requirements shall be calculated in the manner provided in Section 153 of this Code. Where off-street parking is provided which exceeds certain amounts in relation to the quantities specified in Table 151, as set forth in subsection (c), such parking shall be classified not as accessory parking but as either a Principal or a Conditional Use, depending upon the use provisions applicable to the district in which the parking is located. In considering an application for a Conditional Use for any such parking, due to the amount being provided, the Planning Commission shall consider the criteria set forth in Section 303(t) or 303(u) of this Code. Minimum off-street parking requirements shall be reduced, to the extent needed, when such reduction is part of a Development Project's compliance with the Transportation Demand Management Program set forth in Section 169 of this Code.

b. Minimum Parking Required.

Table 151 Off-Street Parking Spaces Required (Residential Uses)[7]

Use or Activity	Number of Off-Street Parking Spaces Required
Dwelling	None required. P up to 1.5 parking spaces for each Dwelling Unit.
Dwelling, in the Telegraph Hill - North Beach Residential Special Use District	None required. P up to 0.5 parking spaces for each Dwelling Unit, subject to the controls and procedures of Section 249.49(c) and Section 155(t); NP above preceding ratio.
Dwelling, in the Polk Street Neighborhood Commercial District	None required. P up to 0.5 parking spaces for each Dwelling Unit; NP above preceding ratio.
Dwelling, in the Pacific Avenue Neighborhood Commercial District	None required. P up to 0.5 parking spaces for each Dwelling Unit; C up to one car for each Dwelling Unit; NP above preceding ratios.
Group Housing of any kind	None required.

c. Where no parking is required for a use by this Section 151, the maximum permitted shall be one space per 2,000 square feet of Occupied Floor Area of use, three spaces where the use or activity has zero Occupied Floor Area or the maximum specified elsewhere in this Section.

[7] Table 151 shows residential uses only. For all uses, see the Planning Code.

Sacramento

City Code 17.608.030 Parking Requirement by Land Use Type and Parking District

A. Parking districts established. The following parking districts are established as shown in Figure 17.608-1: Central Business and Arts & Entertainment, Urban, Traditional, and Suburban.

B. Vehicle parking requirements. Vehicle parking requirements are established for land uses in each parking district as stated in Table 17.608.030B.

Table 17.608.030B Vehicle Parking Requirements by Parking Districts (Residential Uses)[8]

Land Use	Central Business and Arts & Entertainment District	Urban District	Traditional District	Suburban District
Single-unit, duplex dwelling	No minimum requirements	1 space per dwelling unit, except on lots equal to or less than 3,200 square feet in the Central City, where there is no minimum requirement	1 space per dwelling unit, except on lots equal to or less than 3,200 square feet in the Central City, where there is no minimum requirement	1 space per dwelling unit
Secondary dwelling unit	No minimum requirements	No minimum requirements	No minimum requirements	No minimum requirements
Multi-unit dwelling (3 units or more)	No minimum requirements; maximum 1 space per dwelling unit	0.5 space per dwelling unit	1 space per dwelling unit	1.5 spaces per dwelling unit
Fraternity or sorority house; dormitory	No minimum requirements	1 space per 3 occupants	1 space per 3 occupants	1 space per 3 occupants
Residential hotel (SRO)	No minimum requirements	1 space per 10 dwelling units, plus 1 space for manager	1 space per 10 dwelling units, plus 1 space for manager	1 space per 10 dwelling units, plus 1 space for manager

[8] Table 17.608.030B shows residential uses only. For all uses, see the City Code.

Policy #2 Parking Maximums

Berkeley

https://www.cityofberkeley.info/Planning_and_Development/Land_Use_Division/Parking_and_Transportaton_Demand_Management.aspx

A. **Residential Parking Maximums.** For projects of two or more units located on a parcel wholly or partially located within 0.25 miles of a high-quality transit corridor, off-street residential parking cannot be offered at a rate of more than 0.5 spaces per unit. Single-family homes, projects where 50% or more of the units are deed-restricted affordable, projects in the ES-R zoning district, and projects located on a street narrower than 26 feet in the Hills overlay district are exempt from parking maximums. The parking maximums can be exceeded with an Administrative Use Permit (AUP).

Sunnyvale

City Code: 19.46.100. General requirements for nonresidential and mixed-use parking.

Restaurant, Commercial Retail, and Service[9]

Primary Use	Minimum Spaces/1,000 sq. ft.	Maximum Spaces/1,000 sq. ft.
Auto		
Auto sales and rental	4	No maximum
Auto serve uses	2.5 for retail or office space plus 3 per service bay	No maximum
Bars or nightclubs	13	18
Financial institutions	3.3	4
Hotel or boardinghouse	0.8 spaces/hotel room	1.2 spaces/hotel room
Restaurant		
No bar or entertainment	9	13
Including a bar or entertainment	13	18
Takeout	4	5
Retail		
General retail and service	4	5
Warehouse retail or bulky-merchandise retail	2.5	4
Shopping Center	4	5

[9] Multi-family and nonresidential parking requirements. https://sunnyvale.ca.gov/civicax/filebank/blobdload.aspx?BlobID=23611

Office, Industrial, and Warehousing[10]

Primary Use	Minimum Spaces/1,000 sq. ft.	Maximum Spaces/1,000 sq. ft.
Industrial uses, research and development office, and corporate office	2	4
Administrative, professional, and medical	3.3	4
Commercial storage or self-storage	0.4	2
Warehousing	1	2

[10] [10] Multi-family and nonresidential parking requirements. https://sunnyvale.ca.gov/civicax/filebank/blobdload.aspx?BlobID=23611

Policy #3 Reduced Parking for Affordable Housing

Milpitas

Section 8 - Incentives to Encourage On-Site Construction of Affordable Units

Planning Waivers. In addition to waivers, incentives and/or concessions that may be provided pursuant to density bonus law as outlined in Section XI-10-54.15 in the Milpitas Municipal Code if the applicant provides affordable units in excess of 20 percent of the total number of units in the development, the Director of Planning shall grant up to two of the waivers listed below in this Section that help increase the feasibility of the construction of affordable units. The applicant will receive an additional two waivers from the list below for every additional five percent of affordable units provided above the 20 percent. The applicant may choose from the following waivers:
Applicants shall receive incentives as specified in this Section 8 to encourage the on-site construction of affordable units. If an applicant provides affordable units in excess of 20 percent of the total number of units in the project the city will provide the following incentives to include:

1. Priority processing.
2. Reduced setback requirements not to exceed 50 percent of the minimum required setback.
3. Greater floor area ratio (FAR) not to exceed 50 percent of the maximum FAR for commercial space in mixed use zoning.
4. Reduced landscaping requirements.
5. Reduced interior or exterior amenities.
6. A maximum 20 percent reduction in parking requirements.
7. Height restriction waivers not to exceed 20 percent of the maximum zoning height limitations and in no event to exceed the general plan height limitations.

San Carlos

18.17.030 City incentives for below market rate units.

The incentives provided by this section are available to residential developments that provide on-site below market rate units in compliance with Chapter 18.16. Residential developments which have been granted a density bonus pursuant to Section 18.17.040 are not eligible for the City density bonus described in subsection A of this section but may be granted another incentive included in this section as a concession or incentive granted pursuant to Section 18.17.050.

C. Flexible Parking Standards. Residential developments with one or more on-site below market rate units shall be allowed limited reductions in the parking requirements related to any dwelling units or allowed limited use of tandem and/or shared parking arrangements or allowed a combination of these modified parking standards.

Sunnyvale

19.46.080. Parking for special housing developments.

Definition. “Special Housing Development” includes:
1. Affordable housing developments for lower income households;
2. Senior citizen housing, as defined in California Civil Code Sections 51.3 and 51.12, or successor sections; and
3. Housing for persons with disabilities, as defined in the Federal Fair Housing Amendments Act of 1988 and the California Fair Employment and Housing Act, or successor statutes.

Policy #4 Reduced Parking for Transit Proximity

Berkeley

23E.28.140 Required Findings for Parking Reductions Under Section 23E.28.130 for C Districts

B. To approve any reduction of the off-street parking spaces under Section 23E.28.130, or under other sections that refer to this section, the Zoning Officer or Zoning Adjustments Board must find that the reduction will not substantially reduce the availability of on-street parking in the vicinity of the use. The Zoning Officer or Board must also find that at least one of each of the two groups of conditions below apply:

a. The use is located one-third of a mile or less from a Bay Area Rapid Transit (BART) station, intercity rail station or rapid bus transit stops; or

b. The use is located one-quarter of a mile or less from a publicly accessible parking facility, the use of which is not limited to a specific business or activity during the use's peak parking demand; or

c. A parking survey conducted under procedures set forth by the Planning Department finds that within 500 feet or less of the use, on non-residential streets, at least two times the number of spaces requested for reduction are available through on-street parking spaces for at least two of the four hours of the use's peak parking demand; or

d. The use includes one of the following neighborhood-serving uses: Retail Products Store(s), Food Service Establishments, and/or Personal/Household Service(s). These uses include, but are not limited to: Dry Cleaning and Laundry Agents, Drug Stores, Food Products Stores, Household Items Repair Shops, and/or Laundromats.

Richmond

15.04.607.020 – Applicability Under Section ARTICLE 15.04.607 Parking and Loading Standards

H. Exceptions.

1. Neighborhood Retail. Commercial uses having a gross floor area of 5,000 square feet or less are exempt from the off-street parking and loading requirements of this Article.

2. BART Station Area. Within one-half mile of the Richmond BART/Intermodal Terminal, the El Cerrito Del Norte and El Cerrito Plaza BART Stations measured from the station platform and within one-quarter mile of an AC Transit bus stop, the minimum and maximum parking requirements shall be reduced to 50 percent of the requirements set forth in this Article, and minimum parking requirements may be further reduced or eliminated upon the granting of a conditional use permit.

3. Alternative Access and Parking Plans. If an alternative access and parking plan is approved pursuant to Section 15.04.607.070, the off-street parking requirements shall be subject to the provisions of that plan.

Policy #5 Shared Parking

Fairfield

25.34.5 Adjustments to Off-Street Parking Requirements

Adjustments to the off-street parking requirements may be made as identified below. The Director may require a parking study prepared by a qualified traffic engineer to justify any requested adjustment.

A. **Shared parking program**. Where two or more non-residential uses are separate and distinct but share a common or interconnected parking facility, up to a 25 percent reduction of the required number of parking spaces may be approved subject to the following criteria:

1. The uses have substantially different peak traffic usage periods, (e.g., a theater and a bank) or share customers (e.g., a barber shop and a tailor). The Director may require a parking study prepared by a registered traffic engineer that analyzes parking demands to justify the fewer number of spaces.
2. A reciprocal parking and access easement agreement, that shall run with the life of the project, is recorded with the County Assessor.

Redwood City

City Code 30.2 - Required Number of Parking Spaces—Downtown Parking Zone.

A. **Motels or Hotels.** Shared Parking Bonus: All shared parking spaces shall count as two (2) parking spaces toward the fulfillment of the minimum requirement.

B. **Commercial Uses (all other uses permitted within the applicable zone district).** Shared Parking Bonus: All shared parking spaces shall count as two (2) parking spaces toward the fulfillment of the minimum requirement.

City Code 30.4 - Required Number of Parking Spaces—Mixed-Use Zoning Districts.

A. **Shared-Use Parking on Multiple Sites.** Sites with multiple uses having different peak demand times may share parking. A parking study shall be submitted that demonstrates how parking demand will be met with a shared parking arrangement. This study is subject to review and approval of the review authority.

Policy #6 Unbundled Parking

San Francisco

City Code: SEC. 167. PARKING COSTS SEPARATED FROM HOUSING COSTS IN NEW RESIDENTIAL BUILDINGS

A. **Article 1.5, Section 167**. All off-street parking spaces accessory to residential uses in new structures of 10 dwelling units or more, or in new conversions of non-residential buildings to residential use of 10 dwelling units or more, shall be leased or sold separately from the rental or purchase fees for dwelling units for the life of the dwelling units, such that potential renters or buyers have the option of renting or buying a residential unit at a price lower than would be the case if there were a single price for both the residential unit and the parking space. In cases where there are fewer parking spaces than dwelling units, the parking spaces shall be offered first to the potential owners or renters of three-bedroom or more units, second to the owners or renters of two bedroom units, and then to the owners or renters of other units. Renters or buyers of on-site inclusionary affordable units provided pursuant to Section 415 shall have an equal opportunity to rent or buy a parking space on the same terms and conditions as offered to renters or buyers of other dwelling units, and at a price determined by the Mayor's Office of Housing, subject to procedures adopted by the Planning Commission notwithstanding any other provision of Section 415*et seq*.

B. **Exception**. The Planning Commission may grant an exception from this requirement for projects which include financing for affordable housing that requires that costs for parking and housing be bundled together.

San Carlos

City Code 18.20.030 General provisions

A. **Unbundling Parking from Residential Uses**. For residential projects of ten units or more requesting to unbundle the parking from residential uses, a minor use permit is required and the following rules shall apply to the sale or rental of parking spaces accessory to new multifamily residential uses of ten units or more unless waived by the Director as infeasible:

    1. All off-street spaces shall be leased or sold separately from the rental or purchase fees for dwelling units for the life of the dwelling units, such that potential renters or buyers have the option of renting or buying a residential unit at a price lower than would be the case if there were a single price for both the residential unit and the parking space.

    2. In cases where there are fewer parking spaces than dwelling units, the parking spaces shall be offered first to the potential owners or renters of three-bedroom or more units, second to owners or renters of two-bedroom units, and then to owners and renters of other units. Spaces shall be offered to tenants first. Non-tenants may lease with a provision for thirty days to terminate the lease.

    3. Renters or buyers of on-site inclusionary affordable units shall have an equal opportunity to rent or buy a parking space on the same terms and conditions as offered to renters or buyers of other dwelling units.

Policy #7 Parking In-Lieu Fees

It is recommended that cities include ordinance language designed to clarify expectations around the program while ensuring that the City has the flexibility to implement and manage the program in the most effective manner possible.

Code provisions should include:

- The fee shall be non-refundable and payment of the fee does not carry any other guarantees, rights, or privileges to the payer.
- Payment of the fee does not represent an obligation of the City to provide parking spaces through the construction of a new garage or any other particular means.
- Payment of the fee does not represent an obligation of the City to provide parking spaces within any particular proximity to the project for which the payment was made.
- Payment of the fee does not represent an obligation of the City to make available parking spaces within any particular amount of time.
- Payment of the fee does not entitle the applicant, his/her tenants, or his/her clients to free use of any public parking spaces.
- Payment of the fee does not entitle the applicant, his/her tenants, or his/her clients to exclusive or private use of any public parking spaces.

Petaluma

6.10.030 Reduction of Parking Requirements.

The number of parking spaces required by Section 4.10 (Urban Standards Table) may be reduced, and the type or location of parking spaces required by this Section 6 may be modified as follows.

A. *Alternative parking arrangements*. The review authority may reduce the number of parking spaces or eliminate on-site parking requirements for projects where the applicant executes an agreement with the City to:

1. Waive the right to protest the formation of a parking district; or
2. Provide some other fair share contribution acceptable to the review authority. The agreement shall be recorded.

Berkeley

23E.28.090 In-lieu Parking Fee

A. In those commercial and manufacturing Districts in which a public parking fund exists for the purpose of developing public parking, applicants may make an in-lieu payment for construct, maintenance and operation of public off-street parking instead of providing off-street parking spaces as required by this chapter. The fee shall be pursuant to resolution of the Council. In-lieu payments under this section shall be used for the purposes set forth in each Ordinance establishing such public parking funds.

B. In-lieu fees may, at the applicant's option, be paid in a lump sum or in annual installments as specified in each ordinance establishing a parking fund, and may be adjusted annually for inflation. If paid annually, the first annual payment of an in-lieu fee shall be due as a condition of occupancy, and subsequent payments shall be due on January 31 of succeeding years. (Ord. 6478-NS § 4 (part), 1999).

Policy #8 Priced Parking

Emeryville

Chapter 10 Parking Meters

4-10.04 Parking Meter Rates

(a) Parking meter rates within the Bay Street parking meter zone shall be as set forth in Section 4-10.02. Within the North Hollis and Triangle parking meter zones, the City Council may, by resolution, establish rates and locations for parking meters pursuant to this section.

(b) Parking meter rates established pursuant to this section shall be no less than fifty cents ($0.50) per hour and no more than ten dollars ($10.00) per hour, and shall be prorated at intervals of no greater than fifteen (15) minutes.

(c) Parking meter rates established pursuant to this section may be adjusted by resolution of the City Council no more frequently than once every sixty (60) calendar days. Any such adjustment shall not exceed fifty cents ($0.50) per hour.

(d) The City Council may, by resolution, decrease parking meter rates within the North Hollis or Triangle parking meter zone if the average parking occupancy falls below sixty-five percent (65%) during the peak period, and increase parking meter rates if the average parking occupancy exceeds eighty-five percent (85%) during the peak period.

(e) The City Manager or designee may review the average parking occupancy of the North Hollis and Triangle parking meter zones and may recommend to the City Council that parking meter rates be adjusted pursuant to subsection (d) of this section if the average parking occupancy during the peak period is found to be below sixty-five percent (65%) or above eighty-five percent (85%). (Sec. 3 (part), Ord. 20-001, eff. Mar. 19, 2020)

Walnut Creek

Article 14. Parking Meter Zones

3-5.1401 Parking Meter Zone.

a. The Downtown Parking Meter Zone is established as a parking meter zone. The City Transportation Engineer is authorized to direct the installation of parking meters upon those streets or parts of streets or in parking lots or garages within the Downtown Parking Meter Zone where it is determined on the basis of an engineering and traffic investigation, and consistent with Section 3-5.1408, that the installation of parking meters will be necessary to regulate parking.

b. The rate for the use of a metered parking space or parking garage space in the Downtown Parking Meter Zone shall be between zero dollars ($0.00) per hour and five dollars ($5.00) per hour.

c. Failure to observe the restrictions imposed or failure to pay the amount so required shall be a violation of this chapter. It shall be unlawful and a violation of this chapter for any person to deface, injure, tamper with, open or willfully break, destroy or impair the usefulness of any parking meter. (§1, Ord. 1338, eff. February 2, 1978, amended by §1, Ord. 1360, eff. July 20, 1978; by §10, Ord. 1712, eff. December 1, 1988; §1, Ord. 1948, eff. June 3, 1999 and by §3, Ord. 2063, eff. August 17, 2007; §5, Ord. 2121, eff. 1/16/14)

3-5.1408 Periodic Adjustment of Downtown Parking Meter Zone Parking Meter Rates.

The City Council hereby adopts the following process for adjusting Downtown Parking Meter Zone meter rates from time to time to manage the use and occupancy of the parking spaces for the public benefit in all parking areas within the Downtown Parking Meter Zone.

a. To accomplish the goal of managing the supply of parking and to make it reasonably available when and where needed, a target on-street occupancy rate of eighty-five percent (85%) is hereby established.

b. At least annually and not more frequently than quarterly, the City Manager or his or her designee shall survey the average occupancy for each area in the Downtown Parking Meter Zone that has parking meters. Based on the survey results the Transportation Commission may adjust metered parking rates within the Downtown Parking Meter Zone in increments of no more than fifty cents ($0.50) per hour within the rate set forth in Section 3-5.1401(b). The City Manager or his or her designee will then adjust the rates up or down to seek to achieve the target on-street occupancy rate. The base parking meter rates, and any adjustments to those rates made pursuant to this section, will then become effective upon the programming of the parking meter for that rate and the proper posting of the rates. A current schedule of parking meter rates will be available at the City Clerk's office and on the City website. (§8, Ord. 2121, eff. 1/16/14)

Policy #9 Demand-Responsive Pricing

Redwood City

Municipal Code Sec. 20.133. - Periodic Adjustment of Downtown Meter Zone Meter Rates

Under the authority of California Vehicle Code section 22508, the following process for adjusting Downtown Meter Zone meter rates from time to time to manage the use and occupancy of the parking spaces for the public benefit in all parking areas within the Downtown Meter Zones is hereby established.

A. To accomplish the goal of managing the supply of parking, including the use and occupancy of parking spaces for the public benefit, and to make it reasonably available when and where needed, a target occupancy rate of eighty-five percent (85%) is hereby established as the goal sought to be achieved with the rate structure for parking meters within the Downtown Meter Zones. Such target occupancy rate balances the consistent use of the public parking supply with minimizing the time it takes for individual parkers to find a parking space. For purposes of this Section 20.133, the "two (2) representative days" shall fall on a Tuesday, Wednesday, or Thursday, and shall exclude days that fall on a holiday, experience severe weather, or host a special event within the City's downtown area. The two (2) representative days shall be taken from within a single month during one of the busiest four (4) months of the year, based on the past twelve (12) month period of parking data.

B. At least biennially and not more frequently than quarterly, the City Manager shall survey the average occupancy for each parking area in the Downtown Meter Zone that has parking meters and recalculate the parking rates for parking meters in both Downtown Meter Zones A and B using the criteria and calculations established below:

    1. In the Downtown Meter Zone A:

        a. The hourly parking rate in Downtown Meter Zone A shall at all times be between twenty-five cents ($0.25) per hour and two ($2.00) dollars per hour.

        b. If the average occupancy within Downtown Meter Zone A between the hours of eleven o'clock (11:00) A.M. and one o'clock (1:00) P.M. on two (2) representative days are over 85%, the then existing hourly meter rate shall be increased by twenty-five cents ($0.25) provided, however, the hourly parking rate shall in no event exceed the approved maximum rate.

        c. If the average occupancy within Downtown Meter Zone A between the hours of eleven o'clock (11:00) A.M. and one o'clock (1:00) P.M. on two (2) representative days are between seventy percent (70%) and eighty-five percent (85%), the then existing hourly meter rate shall remain the same.

        d. If the average occupancy within Downtown Meter Zone A between the hours of eleven o'clock (11:00) A.M. and one o'clock (1:00) P.M. on two (2) representative days are below seventy percent (70%), the then existing hourly meter rate shall be reduced by twenty-five cents ($0.25), provided, however, the hourly parking rate shall in no event go below the approved minimum rate.

    2. In the Downtown Meter Zone B:

        a. The hourly parking rate in Downtown Meter Zone B shall at all times be between fifty cents ($0.50) per hour and three ($3.00) dollars per hour.

b. If the average occupancy within Downtown Meter Zone B between the hours of eleven o'clock (11:00) A.M. and one o'clock (1:00) P.M. on two (2) representative days are over eighty-five percent (85%), the then existing hourly meter rate shall be increased by fifty cents ($0.50), provided, however, the hourly parking rate shall in no event exceed the approved maximum rate.

c. If the average occupancy within Downtown Meter Zone B between the hours of eleven o'clock (11:00) A.M. and one o'clock (1:00) P.M. on two (2) representative days (Tuesday, Wednesday, or Thursday) are between seventy percent (70%) and eighty-five percent (85%), the then existing hourly meter rate shall remain the same.

d. If the average occupancy within Downtown Meter Zone B the hours of eleven o'clock (11:00) A.M. and one o'clock (1:00) P.M. on two (2) representative days are below seventy percent (70%), the then existing hourly meter rate shall be reduced by fifty cents ($0.50), provided, however, the hourly parking rate shall in no event go below the approved minimum rate.

C. The new rates shall become effective upon the programming of the parking meter for that rate. The current schedule of meter rates shall be available at the City Clerk's office.

San Francisco

Transportation Code Article 400: Parking Meter Regulations

Sec. 401 Parking Meter Rates, Operation Times, and Time Limits.

Within the range of charges authorized in Sections 402-405 of this Article 400, and consistent with applicable law and the policies established by the SFMTA Board of Directors, the Director of Transportation is authorized to determine:

a. The rate to be charged at any particular meter at any particular time;

b. The times and days during which deposit of valid payment at a Parking Meter is required;

c. The maximum time period permitted for Parking at any Parking Meter; and

d. The Parking Meter technology to be used by the SFMTA.

Sec. 402. Citywide Variable Parking Meter Rates.

The rates for parking meters located anywhere within the boundaries of the City and County of San Francisco as described in Appendix A, not under the jurisdiction of the Port of San Francisco, the Recreation and Park Department, the Golden Gate National Recreation Area, the Presidio of San Francisco, or the Treasure Island Development Authority, shall be between $0.50 an hour and $9 an hour effective July 1, 2020, and $10 an hour effective July 1, 2021. Within that range, the rates may be adjusted periodically based on vehicle occupancy on any block or set of blocks during the hours of parking meter operation according to the following criteria: (a) if occupancy is 80% or above, rates will be increased by $0.25 per hour; (b) if occupancy is 60% or above but below 80%, rates will not be changed; (c) if occupancy is below 60%, rates will be lowered by $0.25 per hour. Rates shall be adjusted for any particular block or set of blocks not more than once every 28 days.

Policy #10 Parking Benefit District

Redwood City

Sec. 20.121. Use Of Downtown Meter Zone Parking Meter Revenues:

Revenues generated from on-street and off-street parking within the Downtown Meter Zone boundaries shall be accounted for separately from other City funds and may be used only for the following purposes:

A. All expenses of administration of the parking program

B. All expenses of installation, operation and control of parking equipment and facilities within or designed to serve the Downtown Core Meter Zone

C. All expenses for the control of traffic (including pedestrian and vehicle safety, comfort and convenience) which may affect or be affected by the parking of vehicles in the Downtown Core Meter Zone, including the enforcement of traffic regulations as to such traffic.

D. Such other expenditures within or for the benefit of the Downtown Core Meter Zone as the City Council may, by resolution, determine to be legal and appropriate.

Ventura

Sec. 4.400.030. - Use of revenue.

All revenues collected from parking pay stations, meters, leases, and permits, in the Downtown Parking District shall be placed in a special fund, which fund shall be used exclusively for activities benefiting the parking district. The specific authorized use of revenues shall be as follows:

1. For purchasing, leasing, installing, repairing, maintaining, operating, removing, regulating and policing of pay stations and/or parking meters in the parking district and for the payment of any and all expenses relating thereto.
2. For purchasing, leasing, acquiring, improving, operating and maintaining on- or off-street parking facilities.
3. For installation and maintenance of alternative mode programs, landscaping, pedestrian linkages, sidewalk cleaning, street furniture, way finding systems, and traffic-control devices and signals.
4. For the painting and marking of streets and curbs required for the direction of traffic and parking of motor vehicles.
5. For proper security within the district.
6. For the proper regulation, control, enforcement and inspection of parking and traffic upon the public streets and off-street parking facilities.
7. To be pledged as security for the payment of principal of and interest on financing mechanisms used by the city to meet any of the purposes authorized by this section.
8. For transportation and parking planning, marketing and education programs related to the Downtown Parking District.
9. For construction and maintenance of public restrooms that enhance parking facilities.
10. Revenues from residential parking permits may, in addition to the foregoing, be used for sidewalk, landscaping and other transportation, pedestrian or bicycle enhancements on streets where the residential permit parking is provided.

Policy #12 TDM Policy for New Development

San Francisco

San Francisco Municipal Code Sec. 169 Transportation Demand Management

A. **Sec. 163.3. Applicability.** Except as provided in subsection (b), Section 169 shall apply to any Development Project in San Francisco that results in:

1. Ten or more Dwelling Units, as defined in Section 102; or
2. Ten or more bedrooms of Group Housing, as this term is defined in Section 102; or
3. Any new construction resulting in 10,000 occupied square feet or more of any use other than Residential, as this term is defined in Section 102, excluding any area used for accessory parking; or
4. Any Change of Use resulting in 25,000 occupied square feet or more of any use other than Residential, as this term is defined in Section 102, excluding any area used for accessory parking, as set forth in the TDM Program Standards, if:
    i. The Change of Use involves a change from a Residential use to any use other than Residential; or
    ii. The Change of Use involves a change from any use other than Residential, to another use other than Residential.
5. For any Development Project that has been required to finalize and record a TDM Plan pursuant to Section 169.4 below, any increase in accessory parking spaces or Parking Garage spaces within such Development Project that results in an increase in the requirements of the TDM Standards shall be required to modify such TDM Plan pursuant to Section 169.4(f) below.

B. **Exemptions.** Notwithstanding subsection (a), Section 169 shall not apply to the following:

1. One Hundred Percent Affordable Housing Projects. Residential uses within Development Projects where all residential units are affordable to households at or below 120% of the Area Median Income, as defined in Section 401, shall not be subject to the TDM Program. Any uses other than Residential within those projects, whose primary purpose is to provide services to the Residential uses within those projects shall also be exempt. Other uses shall be subject to the TDM program. All uses shall be subject to all other applicable requirements of the Planning Code.
2. Parking Garages and Parking Lots, as defined in Section 102. However, parking spaces within such Parking Garages or Parking Lots, when included within a larger Development Project, may be considered in the determination of TDM Plan requirements, as described in the TDM Program Standards.
3. When determining whether a Development Project shall be subject to the TDM Program, the Development Project shall be considered in its entirety. A Development Project shall not seek multiple applications for building permits to evade the applicability of the TDM Program.

4. The TDM Program shall not apply to any Development Project that receives Approval of any Development Application or Development Agreement before the effective date of this Section.

C. **Operative Date.**

1. Except as described in subsection (4) below, Development Projects with a Development Application filed or an Environmental Application deemed complete on or before September 4, 2016 shall be subject to 50% of the applicable target, as defined in the Planning Commission's Standards.
2. Except as described in subsection (4) below, Development Projects with no Development Application filed or an Environmental Application deemed complete on or before September 4, 2016, but that file a Development Application on or after September 5, 2016, and before January 1, 2018, shall be subject to 75% of such target.
3. Development Projects with a Development Application filed on or after January 1, 2018 shall be subject to 100% of such target.
4. Development Projects within the Central SoMa Special Use District that fall within Central SoMa Fee Tier A, B, or C, as defined in Section 423.2, shall be subject to the following requirements:
    i. Projects that have filed a Development Application or submitted an Environmental Application deemed complete on or before September 4, 2016 shall be subject to 75% of such target.
    ii. Projects that filed a Development Application or submitted an Environmental Application deemed complete after September 4, 2016 shall be subject to 100% of such target.

D. **SEC. 169.4. TRANSPORTATION DEMAND MANAGEMENT PLAN REQUIREMENTS.**

1. A property owner shall submit a proposed TDM Plan along with the Development Project's first Development Application. For all projects that require a community meeting occur prior to project application, the Project Sponsor shall discuss potential TDM measures and program standards at that meeting and solicit feedback from the local community to be taken into consideration in preparing the proposed TDM Plan for submittal to the Planning Department. If the Planning Department requires any preliminary application or assessment prior to the project application, the project sponsor shall submit a draft TDM plan at that time. The proposed TDM Plan shall document the Development Project's proposed compliance with Section 169 and the Planning Commission's TDM Program Standards.
2. The proposed TDM Plan shall be reviewed in conjunction with the approval of the first Development Application for the Development Project.
3. Compliance with the TDM Program, including compliance with a finalized TDM Plan, shall be included as a Condition of Approval of the Development Project. The Planning Commission shall not waive, reduce, or adjust the requirements of the TDM Program through the approval processes described in Sections 304, 309, 329 or any other Planning Commission approval process that allows for exceptions.
4. The Development Project shall be subject to the TDM Program Standards in effect at the time of its first Development Project Application. If the Planning Commission has issued

revised TDM Program Standards subsequent to the date of the Development Project's first Development Application was filed, then the property owner may elect to have the Development Project be subject to the later-approved TDM Program Standards, but if so, must meet all requirements of such revised Standards.

5. The Zoning Administrator shall approve and order the recordation of a Notice in the Official Records of the Recorder of the City and County of San Francisco for the subject property prior to the issuance of a building or site permit. This Notice shall include the Development Project's final TDM Plan and detailed descriptions of each TDM measure.
6. Upon application of a property owner, after a TDM Plan is finalized and the associated building or site permit has been issued, a Development Project's TDM Plan may be modified in accordance with procedures and standards adopted by the Planning Commission in the TDM Program Standards. However, if such modification to an existing TDM Plan is required pursuant to Section 169.3(a)(5) above, the modified TDM Plan shall be finalized in accordance with the procedures and requirements of the TDM Standards in effect at the time of the modification.
7. Property owners shall pay administrative fees with the application, periodic compliance review, and voluntary update review of their TDM Plans, as set forth in the Planning Department Fee Schedule.

E. **SEC. 169.5. MONITORING, REPORTING AND COMPLIANCE.**

1. Prior to the issuance of a first certificate of occupancy, the property owner shall facilitate a site inspection by Planning Department staff to confirm that all approved physical improvement measures in the Development Project's TDM Plan have been implemented and/or installed. The property owner shall also provide documentation that all approved programmatic measures in the Development Project's TDM Plan will be implemented. The process and standards for determining compliance shall be specified in the Planning Commission's TDM Program Standards.
2. Throughout the life of the Development Project, the property owner shall:
    i. Maintain a TDM coordinator, as defined in the Planning Commission's TDM Program Standards, who shall coordinate with the City on the Development Project's compliance with its approved TDM Plan.
    ii. Allow City staff access to relevant portions of the property to conduct site visits, surveys, inspection of physical improvements, and/or other empirical data collection, and facilitate in-person, phone, and/or e-mail or web-based interviews with residents, tenants, employees, and/or visitors. City staff shall provide advance notice of any request for access and shall use all reasonable efforts to protect personal privacy during visits and in the use of any data collected during this process.
    iii. Submit periodic compliance reports to the Planning Department, as required by the Planning Commission's TDM Program Standards.

F. **SEC. 169.6. TRANSPORTATION DEMAND MANAGEMENT PROGRAM STANDARDS.**

1. The Planning Commission, with the assistance of the Planning Department and in consultation with staff of the San Francisco Municipal Transportation Agency and the San Francisco County Transportation Authority, shall adopt the Planning Commission Standards for the Transportation Demand Management Program, or TDM Program Standards. The TDM Program Standards shall contain the specific requirements necessary for compliance with the TDM Program. The TDM Program Standards shall be updated from time to time, as deemed appropriate by the Planning Commission, to reflect best practices in the field of Transportation Demand Management.
2. When preparing, adopting, or updating the TDM Program Standards, the Planning Commission shall consider the primary goals of Section 169, that is, to reduce VMT from new development in order to maintain mobility as San Francisco grows, and to achieve better environmental, health and safety outcomes. In addition, the Planning Commission shall consider the following principles:
    i. The requirements of the TDM Program, as set forth in the TDM Program Standards, shall be proportionate to the total amount of VMT that Development Projects produce, and shall take into account site-specific information, such as density, diversity of land uses, and access to travel options other than the private automobile in the surrounding vicinity.
    ii. The TDM Program Standards shall provide flexibility for Development Projects to achieve the purposes of the TDM Program in a way that best suits the circumstances of each Development Project. To that end, the TDM Program Standards shall include a menu of TDM measures from which to choose. Each measure in this TDM menu shall be designed to reduce VMT by site residents, tenants, employees, or visitors, as relevant to the Development Project, and must be under the control of the developer, property owner, or tenant.
    iii. Each of the TDM measures in the TDM Program Standards shall be assigned a number of points, reflecting its relative effectiveness to reduce VMT. This relative effectiveness determination shall be grounded in literature review, local data collection, best practice research, and/or professional transportation expert opinion, and shall be described in the TDM Program Standards.
3. One year after the effective date of the TDM Program, the Planning Department shall prepare a report analyzing the implementation of the TDM Program and describing any changes to the TDM Program Standards. Every four years, following the periodic updates to the San Francisco Countywide Transportation Plan that the San Francisco County Transportation Authority prepares, the Planning Department shall prepare a report containing the same information. The Planning Department shall present such reports to the Planning Commission, and may present them to the Board of Supervisors during a public hearing, if a Supervisor chooses to request a hearing on the matter.

Mountain View (North Bayshore)

North Bayshore Precise Plan 6.14 Transportation Demand Management[11]

A. Commercial TDM Standards

1. District-wide vehicle trip cap. New development shall be subject to the District-wide vehicle trip cap as described in Chapter 8, Section 8.3
2. TDM requirements. All new development or building additions greater than 1,000 square feet shall be subject to the following:
    i. Project-level vehicle trip cap. All new development or building additions greater than 1,000 square feet shall have an AM peak period vehicle trip cap which will be established assuming a 45% SOV mode share and 10% carpool mode share, unless the applicant can demonstrate their proposed TDM program will likely result in a higher carpool mode share.
    ii. TDM plan. The applicant and/or property owner shall prepare a TDM plan with programs and measures to achieve a 45% SOV employee mode share.
    iii. TDM plan baseline requirements. The TDM plan shall include the following measures and describe how these services will be provided. Some of these programs could be offered by the TMA:
        a. Priority parking for carpools and vanpool
        b. On-site employee transportation coordinator to serve as a liaison between the employer/property owner and the TMA and to oversee the TDM program
        c. Bicycle parking and shower and changing facilities as defined by this chapter
        d. Shared bicycles, if a bikeshare service is not available in North Bayshore
        e. Telecommute/flexible work schedule program
        f. Guaranteed ride home program
        g. Membership in the TMA
        h. Carpool matching services
        i. Shuttle services to connect employees to local transit services
        j. Marketing of TDM programs to employees
    iv. Approval of TDM Plan. The applicant shall submit their TDM plan to the City for approval. The City may request additional program measures to ensure the proposed plan will achieve the 45% SOV employee mode share. The City may request an applicant hire a third party to review the TDM plan to determine its efficacy in achieving the mode share requirement.
    v. Employee Transportation Coordinator. The applicant and/or property owner shall designate an Employee Transportation Coordinator (ETC). The ETC will serve as the point

[11] This excerpt details the Commercial and Residential TDM Standards & Guidelines. For all entire policy, see the Precise Plan.

of contact for the TMA and will provide the TMA and City with materials and data showing compliance with TDM and monitoring requirements.

3. Retail/Commercial TDM exemptions
    i. Because retail and other non-office commercial uses generate most of their traffic in off-peak times or the reverse peak direction, they shall not be subject to a specific mode split requirement.
    ii. All new retail/commercial development less than 1,000 square feet or retail/commercial building additions less than 1,000 square feet shall not be required to prepare a TDM Plan.
4. Small business trip cap exemption. Any small business with 50 or fewer employees shall be exempt from trip cap standards for additions up to 2,500 square feet.

B. Commercial TDM Guidelines

1. Congestion pricing. If the employer TDM program requirement and trip cap do not reduce the number of vehicle trips to less than the established AM peak period vehicle trip cap, the City Council may direct that a congestion pricing system be implemented. The City's congestion pricing strategy should include:
    i. Securing approval from the state legislature and Caltrans to move forward with congestion pricing on public streets.
    ii. Determining the appropriate technology for identifying vehicles, and the measures for collecting revenue.
    iii. Siting of the cordon line and camera and gantry locations.
    iv. Addressing specific exemptions from all pricing, such as Santiago Villa residents, Shoreline Park visitors, emergency vehicles, etc.
    v. Detailing procedures for enforcement of pricing and adjudication of disputes.
    vi. Detailing procedures for ensuring the privacy of all motorists, including protocols for use and destruction of data.
    vii. Establishing restrictions on changes to the fee level, congestion target, and use of net revenue, ensuring that rates are set at the lowest level necessary to achieve the congestion target, rather than the level that maximizes revenue.
    viii. Developing flexibility and a customer-service orientation to make payment simple and transparent.
    ix. Planning a communications strategy to help motorists understand how and why the program works.
2. Public process. Prior to the implementation of a congestion pricing system, the City will conduct a community outreach process. This may include, but not be limited to, written notifications to all property owners in the district and/or City of the proposed project; and public hearings through the EPC and/or City Council. The public process will be designed to help develop the specifics of the program.

C. Residential TDM Standards

1. TMA membership. New residential developments shall become TMA members.
2. Trip cap exception. Because of the regional traffic benefits provided by housing in the North Bayshore area, residential developments shall be exempt from the area-wide trip cap. Residential developments are still subject to any transportation analysis required by CEQA.
3. Residential Vehicle Trip Generation. All new residential developments shall submit a Residential TDM Plan which shall include TDM measures consistent with the North Bayshore Residential TDM Guidelines.

D. Residential TDM Guidelines

1. Carshare/scooter share. Developers should consider offering subsidized or free carshare or electric scooter share memberships for residences with carshare or scooter share services on-site. Up to 1 carshare space per 80 residential units may be exempted from the off-street parking maximum.
2. Concierge services. Developers should consider providing a fully staffed concierge for receiving packages, storing grocery delivery (including cold storage), or providing a local errands service. Concierge staff should be trained to offer transportation information to residents, including locally available shuttles, regional public transit, and car and bicycle share information.
3. Resident incentives. Developers should provide a website for residents with the ability to incentivize resident travel behavior through a rewards or incentive system. Incentives and rewards could be developed by the property management company or resident groups.

APPENDIX B

Sample Staff Reports & Council Resolutions

Appendix B - Table of Contents

Planning and Development Department
Land Use Planning Division

STAFF REPORT

DATE: March 4, 2020

TO: Members of the Planning Commission

FROM: Justin Horner, Associate Planner

SUBJECT: Public Hearing on Proposed Zoning Ordinance Amendments for Residential Development that Eliminate Minimum Parking Requirements, Establish Parking Maximums, Establish a Transportation Demand Management (TDM) Requirement, and Add Bicycle Parking Requirements.

BACKGROUND

In response to the Green Affordable Housing Package and City-wide Green Development Requirements referrals, the Planning Commission has discussed parking reform and the establishment of Transportation Demand Management (TDM) requirements at five meetings over the past year. Consistent with the City Council's referrals, the Planning Commission has consistently expressed concern that requiring too much residential parking encourages driving, increases transportation-related emissions, reduces residential densities and makes housing more expensive. While considering the reduction or elimination of parking requirements, the Planning Commission also expressed concern that doing so could simply cause more vehicles to park on the street and that eliminating requirements alone would not necessarily support the growth of more sustainable transportation modes. Therefore, at its meeting of July 17, 2019, the Planning Commission determined that the adoption of TDM requirements should go hand-in-hand with any reductions in required off-street parking.

To ensure that policy recommendations reflected Berkeley-specific conditions, the Planning Commission requested staff to undertake a Residential Parking Utilization Study ("Parking Study"-- Attachment 2) to examine parking usage at 20 existing residential buildings. As presented at their meeting of December 4, 2019 (Attachment 3), the Parking Study found that the average occupancy rate for off-street residential parking spaces was 54%, that the average occupancy rate for on-street parking spaces near the 20 properties was 61%, and that the average dwelling unit among the surveyed buildings had 0.5 vehicle registrations. The Planning Commission determined that the study supported the contention that Berkeley's parking requirements do not match actual residential parking usage.

At that meeting, the Planning Commission directed staff to develop amendments to the Zoning Ordinance that reflected the following policy recommendations:

1. Eliminate minimum parking requirements for all residential projects in the City of Berkeley.

2. Establish maximum parking limits of 0.5 spaces per unit for all project that include two or more dwelling units on parcels located within ¼ mile of transit.

3. Require proposed residential projects of 10 or more units to include the following TDM measures:
    a. Off-street bicycle parking, consistent with the 2017 *Berkeley Bicycle Plan*;
    b. Real-time transportation information displayed on monitors in project common areas;
    c. One free monthly transit pass, or equivalent Clipper Card credit, for each unit in the project for a period of ten years; and
    d. "Unbundling" of any provided parking.

4. Prohibit residents of new projects of 10 or more units located in C-prefix districts from obtaining Residential Parking Permits (RPP).

The proposed Zoning Ordinance amendments to implement the Planning Commission's direction are listed in Attachment 4. Full text of the amendments is provided (redlined) in Attachments 5 and 8.

DISCUSSION
The proposed Zoning Ordinance amendments are presented in five categories listed below:

1. Provisions that eliminate minimum parking requirements for residential development. These include changes that do not directly eliminate parking requirements but are required to further the intent of the Planning Commission's recommendation and ensure consistency across the Zoning Ordinance (Attachment 5);
2. A new Chapter that establishes maximum parking requirements for residential developments near transit, and new limitations on RPP permits;
3. Provisions that implement TDM requirements, including a new Chapter of required TDM measures, and amendments to existing sections to require residential bicycle parking;
4. Technical edits to existing sections that clean-up language and include changes consistent with the Planning Commission's direction; and
5. Optional changes to the Variances Chapter.

1. Eliminating Minimum Parking Requirements

The first category of proposed Zoning Ordinance amendments reflect the Planning Commission's recommendation to remove minimum residential parking requirements for all new development projects that include dwelling units. Based on the findings of the Parking Study, as well as similar studies undertaken in other cities, staff initially recommended eliminating parking requirements for multi-unit buildings of 10 dwelling units or more. As the Parking Study and staff research did not include consideration of smaller residential projects, staff's initial recommendation did not include elimination of parking requirements for smaller projects in lower-density districts. Additionally, staff did not consider potential trade-offs in lower-density hills areas between eliminating off-street parking requirements and impeding emergency access, including potential conflicts with the city's Local Hazard Mitigation Plan and/or Safe Passages Program. Upon consideration of the staff recommendation, Planning Commission directed staff to return with a modified version of staff's proposal, which is detailed below.

The draft Zoning Ordinance amendments include revisions to 11 zoning districts to eliminate minimum residential parking requirements. There are also revisions to 4 other sections that are suggested to ensure consistency across the Zoning Ordinance in applying the elimination of parking requirements.

Amendments Removing Residential Parking Requirements

For 12 zoning districts, the amount of parking required for each use is currently displayed in a table included in each district's *Parking—Number of Spaces* section (delineated as 23X.XX.*080* in all 12 chapters). In nearly all cases, the necessary amendments strike the per-unit parking requirement and replace it with the words "None required." The redlined versions of these changes can be found in Attachment 5.

To illustrate these proposed Zoning Ordinance amendments, the redlined amendments to Table 23D-30-080 (R-3 Multiple Family Residential District Provisions) are provided below. The R-3 zoning district is illustrative, as it allows a number of different residential use types, and five of the nine C-prefix districts utilize the R-3 requirements for residential parking.

Use	Number of spaces
Dormitories; Fraternity and Sorority Houses; Rooming and Boarding Houses; and Senior Congregate Housing	None required ~~One per each five residents, plus one for manager~~
Dwellings~~, Multiple (fewer than ten) Dwellings, Multiple (Ten or more) Dwellings, One and Two Family~~	None required ~~One per unit (75% less for seniors, see below) One per 1,000 sq. ft. of gross floor area (75% less for seniors, see below) One per unit~~
Employees	One per two non-resident employees for a Community Care Facility*
Hospitals	One per each four beds, plus one per each three employees
Libraries	One per 500 sq. ft. of floor area that is publicly accessible
Nursing Homes	~~One per each five residents, plus o~~One per each three employees
*This requirement does not apply to those Community Care Facilities which under state law must be treated in the same manner as a single family residence.	

Amendments to the Purpose sections of Chapters 23D.12 and 23E.28

The Purpose statements in 23D.12.010 and 23E.28.010 provide the justification for regulation of off-street parking in residential and non-residential zones, respectively. The existing Purposes state that the intent of the Chapters is to require off-street parking to prevent the worsening of a deficiency of parking spaces.

Elimination of minimum residential parking requirements introduces an inconsistency with the Purposes mentioned above. Draft amendments for 23D.12 and 23E.28 correct this error and reflect the findings of the Parking Study (i.e. off-street and on-street

parking are currently underutilized). The redlined versions of these changes can be found in Attachment 8. The new language would read:

23D.12.010 Purposes

The purposes of the parking regulations contained in this Chapter are:

A. To ~~prevent the worsening of the already serious deficiency of~~efficiently allocate parking spaces ~~existing in many areas of~~in the City.

B. To ~~require~~ regulate the provision of off-street parking spaces for traffic-generating uses of land within the City.

C. To reduce the amount of on-street parking of vehicles, thus increasing the safety and capacity of the City's street system. (Ord. 6478-NS § 4 (part), 1999)

Amendments to Chapters 23D.12.050 and 23E.28.050

Currently, Chapters 23D.12.050 and 23E.28.050 allow the Zoning Officer to require any permit to be conditioned to provide more than the minimum required off-street parking if the Zoning Officer finds that the demand for parking spaces would exceed what is provided by the minimum required parking.

Consistent with Planning Commission's direction to eliminate minimum residential parking requirements, these sections are amended to allow permits to be so conditioned *only* for non-residential projects, or non-residential portions of mixed use projects. The redlined version of these changes can be found in Attachment 8. The amended language would read:

23E.28.050 Number of Parking Spaces Required

B. ~~In the case of an AUP, a Use Permit, or a variance the Zoning Officer and Board~~ A Permit may be conditioned to provide ~~require~~ more than the minimum required off-street parking spaces for non-residential projects or non-residential portions of mixed-use projects ~~than the minimum required by the applicable District~~, if ~~he/she or it finds that~~ the expected demand for parking spaces ~~will~~ is found to exceed the minimum requirement.

Removing Unnecessary Provisions Regarding Senior Housing in Six Districts

The R-2A, R-3, R-4, R-5, C-W, and MU-R districts each include provisions that allow residential projects that include senior housing to provide less than the required residential minimum parking, subject to a Use Permit. Pursuant to the proposed Zoning Ordinance amendments, residential parking would no longer be required, so these sections can be struck. The language is identical in all 6 districts and is shown, redlined, below:

~~C. For multiple dwellings where the occupancy will be exclusively for persons over the age of 62, the number of required Off-street Parking Spaces may be reduced to 25% of what would otherwise be required for multiple-family dwelling use, subject to obtaining a Use Permit.~~

The redlined version of these changes can be found in Attachment 5.

Amending Vehicle Share Requirements in the C-DMU (23E.68.080.I)

Section 23E.68.080.I currently requires residential projects in the C-DMU to designate a certain number of their required off-street vehicle parking spaces for the use of vehicle sharing services such as Zipcar or City Carshare. Pursuant to the proposed Zoning Ordinance amendments, residential parking spaces would no longer be required, so vehicle share space requirements would only apply to parking spaces that are "provided" by a project. The redlined version of these changes can be found in Attachment 5. The section would read:

23E.68.080 Parking -- Number of Spaces

I. For residential ~~structures constructed or converted from a non-residential use that require~~ projects that provide vehicle parking ~~under Section 23E.68.080.B, required parking spaces shall be designated as~~ vehicle sharing spaces shall be provided in the amounts specified in the following table. ~~If no parking spaces are provided pursuant to Section 23E.68.080.D, no vehicle sharing spaces shall be required.~~

Number of Parking Spaces ~~Required~~ Provided	Minimum Number of Vehicle Sharing Spaces
0 – 10	0
11 – 30	1
30 – 60	2
61 or more	3, plus one for every additional 60 spaces

2: Establishing Off-Street Parking Maximums for Residential Development

At its meeting of January 15, 2020, the Planning Commission discussed instituting parking maximums for residential development (Attachment 6). The Planning Commission considered staff's research, which found that few jurisdictions have instituted maximum parking requirements, and of the few that have, they are limited to specific zoning districts or sub-areas within their respective cities. Parking maximums that have been set by other jurisdictions were found to be at levels well above what is already being constructed in Berkeley, even before the Planning Commission considered moving forward to reduce or remove minimum parking requirements. Additionally, the lack of tested methodologies for setting parking maximums for residential projects was of concern to staff. Therefore, the Planning Commission considered a staff recommendation to not implement parking maximums at this time. The Planning Commission provided alternative direction to establish parking maximums for residential projects near transit.

As directed by the Planning Commission, the proposed Zoning Ordinance amendments include a new Chapter 23C.19 (Attachment 7). This new Chapter includes the Purpose and Applicability of the new off-street parking maximums, the maximum itself, and a process by which projects can exceed the maximum with an Administrative Use Permit (AUP), if specific findings are made.

The Planning Commission recommended a parking maximum of 0.5 parking spaces per dwelling unit for all projects that include two or more units and are located on parcels within ¼ mile of transit. Transit is defined as a Major Transit Stop per *California Public Resources Code* Section 21064.3 or a transit corridor with service at 15 minute headways during the morning and afternoon peak periods. Areas that meet this criteria are shown in Figure 1.

Chapter 23C.19.040 allows applicants to request parking in excess of the maximum with an AUP if <u>one</u> of the following findings can made by the Zoning Officer or the Zoning Adjustments Board (ZAB):

(i) Trips to the use or uses to be served, and the apparent demand for additional parking, cannot be satisfied by the amount of parking permitted by this Chapter, by transit service which exists or is likely to be provided in the foreseeable future, or by more efficient use of existing on-street and off-street parking available in the area; or

(ii) The anticipated residents of the proposed project have special needs or require reasonable accommodation that relate to disability, health or safety that require the provision of additional off-street residential parking.

Figure 1. Areas within ¼ Mile of Major Transit Stop

3. Establishing Transportation Demand Management (TDM) Requirements

The third category of proposed Zoning Ordinance amendments include new TDM requirements for residential development recommended by the Planning Commission at their December 4, 2019 meeting. These changes include a new Chapter 23C.18 (Transportation Demand Management) as well as changes to two other sections of the Zoning Ordinance to implement residential bicycle parking requirements (Attachment 8).

Adopt Chapter 23C.18: Transportation Demand Management

The new Chapter 23C.18 includes the Purpose, Applicability, Requirements and Monitoring and Compliance sections for TDM measures that are required of projects that include 10 or more dwelling units.

23C.18.030 includes specifications for three of the TDM measures recommended by the Planning Commission: (1) unbundled parking, (2) real-time transportation information displays, and (3) a free monthly transit pass for each unit for a period of ten years. It also includes the Planning Commission's stipulation that residents of projects of 10 or more dwelling units developed in C-prefix districts shall not be eligible for RPP permits.

The new Chapter also includes project types that are exempt from these new requirements. They include:

- Projects located in the C-DMU district. The C-DMU already has its own TDM requirements, pursuant to the Downtown Area Plan.
- Projects located in the Southside Plan Area. Projects in the Southside Plan Area are anticipated to house UC students, all of whom already receive transit passes.
- Projects in which the majority of units are subject to deed-restricted affordability. The Planning Commission's intent is to avoid any unintended negative consequences of these new requirements on potential sources of funding for affordable housing (for example, some Federal funding sources prohibit unbundled parking).

23C.18.040 includes monitoring provisions, which include a site visit before the issuance of a Certificate of Occupancy. Eligible projects would be required to submit compliance reports consistent with regulations staff would develop to implement the ordinance.

Adopt Section 23D.12.065 and Amend Section 23E.28.070: Residential Bicycle Parking

The proposed Zoning Ordinance amendments include a new section (23D.12.065 Off-Street Parking Requirements: Bicycle Parking – Attachment 8) to reflect Planning Commission's direction to include the residential bicycle parking requirements in the 2017 *Berkeley Bicycle Plan* as a required TDM measure. Although the Planning Commission's recommendation for TDM requirements applied only to projects that include 10 or more dwelling units, staff has put forward the *Berkeley Bicycle Plan*'s recommended threshold of 5 or more units for bike parking, consistent with Planning Commission's December 2018 direction to include bicycle parking in the Zoning Ordinance. Amendments to Section 23E.28.080 apply these same requirements to residential portions of projects located in non-residential districts.

The requirements are set forth below:

Use	**Long Term Parking[1] Requirement**	**Short-Term Parking[1] Requirement**
Dwelling Units (1 to 4 units)	None required	None required
Dwelling Units (5 units or more)	1 space per three bedrooms	2, or 1 space per 40 bedrooms, whichever is greater
Group Living Accommodations, Dormitories, Fraternity and Sorority Houses, Rooming and Boarding Houses, Transitional Housing)	2, or 1 space per 2.5 bedrooms, whichever is greater	2, or 1 space per 20 bedrooms, whichever is greater
[1] Long-Term Parking and Short-Term Parking shall meet the design standards included in Appendix F of the 2017 *Berkeley Bicycle Plan*, or as subsequently amended by the Transportation Division.		

4. Technical Edits and Zoning Ordinance Clean-Up

The fourth category of changes consists of technical edits and clean-up that are consistent with the intent of the Planning Commission's recommendations. There are eight such changes, which are explained below.

a) *Eliminate Redundancy in 23E.28.020.C*. This section states that a Use Permit cannot be granted unless the project complies with the requirements of Chapter 23E.28. This is redundant, as compliance with the Chapter is already required in all cases. The redlined version of this change can be found in Attachment 8.

b) *Allow Tandem Parking with an AUP in 23D.12.050.D and 23E.28.050.D*. These sections currently only allow tandem spaces to satisfy minimum parking requirements with the approval of the City Traffic Engineer and ZAB. To more efficiently use land already committed in part to off-street parking, amendments to this section allow tandem spaces to satisfy minimum parking requirements with an AUP. This would apply to both residential and non-residential projects. The redlined version of these changes can be found in Attachment 8.

c) *Reorder Cells for Community Care Facility Parking Requirements*. In six R-prefix districts, parking requirements for Community Care Facilities are based on number of employees. The Parking Required table in each of the six R-prefix districts lists the land use as "employees," when, in fact, the land use is Community Care Facility. The redlined version of the amended row for Community Care Facility, which can be found in Attachment 5, is identical in all six districts, and would read:

Use	Number of Spaces
~~Employees~~ Community Care Facility	One per two non-resident employees ~~for a Community Care Facility~~*

d) *Eliminate the Car-Free Housing Overlay in the R-S District*. The Car-Free Housing Overlay was designated as an area where no off-street parking would be required for residential uses. As the proposed Zoning Ordinance amendments include the elimination of minimum residential parking requirements, the Car-Free Housing Overlay is now unnecessary and can be struck. The redlined version of this change can be found in Attachment 5.

e) *Clarify the Restriction on RPP Permits in the R-S District*. Currently, residents of projects constructed without parking in the Car-Free Housing Overlay are not entitled to receive RPP permits. As the proposed Zoning Ordinance amendments include the elimination of the Car-Free Housing Overlay, new language is proposed to preserve this restriction in the R-S district. The redlined version of this change can be found in Attachment 5.

f) *Clarify that Only Obstructions to Required Parking Spaces are Prohibited*. Currently, 23E.28.020 prohibits the construction of any structure that could impede access to *any* off-street parking spaces. Clarifying language is proposed to specify that only *required* off-street parking spaces are so protected. This would apply to both residential and non-residential parking. The redlined version of this change can be found in Attachment 8.

g) *Replace "Modify" with "Reduce or Eliminate" in the C-W*. 23E.64.080G permits ZAB or the Zoning Officer to "modify" parking requirements in the C-W. As the intent of this provision is understood to not allow an increase in required parking, the word "modify" is replaced with "reduce or eliminate." The redlined version of this change can be found in Attachment 5.

h) *Replace "Required" with "Provided."* In appropriate places throughout the Zoning Ordinance, "required" parking is replaced with "provided" parking.

5. Optional Change to Variance Section (23B.44.010)

Section 23B.44.010 currently requires any reduction in minimum parking requirements to obtain a Variance. Planning Department staff, community members, and members of the ZAB and Planning Commission have expressed concern that obtaining a Variance requires findings that are difficult to meet to reduce residential parking requirements.

If the Planning Commission recommends eliminating minimum residential parking requirements for all residential projects, the process of reducing residential parking requirements will be moot and no change to the Variance section would be required.

However, if the Planning Commission recommends amendments that include the preservation of residential parking requirements in certain zoning districts and/or circumstances, they are asked to consider the following amendments to the Variance Section:

- Allow reductions in required residential parking with a Use Permit, except in Berkeley Fire Zones 2 or 3; and

- Require a Variance to reduce residential parking requirements in Berkeley Fire Zones 2 or 3.

The redlined version of these changes can be found in Attachment 9.

CONCLUSION AND NEXT STEPS

1. Conduct a public hearing.
2. Recommend for adoption by the City Council draft Zoning Ordinance amendments

Attachments:
1. Public Hearing Notice
2. Residential Parking Utilization Study (October 2019)
3. Staff Report, Proposed Transportation Demand Management Program and Reduction of Parking Requirements, December 4, 2019 (without Attachments)
4. List of Zoning Ordinance Sections Amended
5. Proposed Zoning Ordinance Amendments: Eliminating Minimum Parking Requirements
6. Staff Report, Parking Maximums, January 15, 2020. (without Attachments)
7. Proposed Zoning Ordinance Amendments: Implementing Residential Parking Maximums
8. Proposed Zoning Ordinance Amendments: TDM Requirements and Bicycle Parking
9. Optional Zoning Ordinance Amendments: Variances Chapter

PLANNING COMMISSION

NOTICE OF PUBLIC HEARING

MARCH 4, 2020

Consider Zoning Ordinance Amendments for Residential Development that Eliminate Minimum Parking Requirements, Add Bicycle Parking Requirements, Establish Parking Maximums, and Establish a Transportation Demand Management (TDM) Requirement

The Planning Commission of the City of Berkeley will hold a public hearing on the above matter, pursuant to Zoning Ordinance Section 23A.20.30, on **Wednesday, March 4, 2020,** at the **South Berkeley Senior Center**, 2939 Ellis Street, Berkeley (wheelchair accessible). The meeting starts at **7:00 p.m**.

PROJECT DESCRIPTION: The proposed amendments to Berkeley's Zoning Ordinance would: 1) eliminate minimum residential off-street parking requirements; 2) add bicycle parking requirements; 2) establish maximum residential off-street parking limits; and 3) establish a Transportation Demand Management (TDM) requirement. Changes to be considered are summarized below:

- Modify Berkeley Municipal Code (BMC) Chapters 23D.12, 23D.16, 23D.20, 23D.24, 23D.28, 23D.32. 23D.36, 23D.40, 23D.44, 23D.48, 23D.52. 23E.28, 23E.56, 23E.64, 23E.68, 23E.84 to eliminate minimum residential off-street parking requirements for all projects that include dwelling units;

- Adopt BMC Chapter 23D.12.065 and modify BMC Chapter 23E.28 to add bicycle parking requirements adopted in the 2017 Berkeley Bicycle Plan for all projects that include five or more dwelling units;

- Adopt BMC Chapter 23C.27 to establish maximum residential off-street parking limits of 0.5 vehicle spaces per dwelling unit for projects that include two or more dwelling units within ¼ mile of transit; and

- Adopt BMC Chapter 23C.28 to establish a TDM program requiring the inclusion of three (3) TDM measures for projects that include ten (10) or more dwelling units. The proposed measures are one free transit pass per unit; the provision of on-site real-time transportation information; and the "unbundling" of parking from the cost or rent for a dwelling unit.

Full text of Zoning Ordinance Amendments can be found on the Planning Commission's homepage (https://www.cityofberkeley.info/Clerk/Commissions/Commissions__Planning_Commission_Home page.aspx).

The Planning Commission will make a recommendation to City Council. City Council will consider the recommendation at a public hearing (date to be determined, notice to be published).

1947 Center Street, Berkeley, CA 94704 Tel: 510.981.7410 TDD: 510.981.7474 Fax: 510.981.7490
E-mail: planning@ci.berkeley.ca.us

LOCATION: Affected districts could include: R-1, R-1A, ES-R, R-2, R-2A, R-3, R-4, R-5, R-S, R-SMU, C-1, C-N, C-E, C-NS, C-SA, C-T, C-SO, C-DMU, C-W, and MU-R. The zoning map is available online: http://www.ci.berkeley.ca.us/uploadedFiles/IT/Level_3_-General/Zoning%20Map%2036x36%2020050120.pdf

ENVIRONMENTAL REVIEW STATUS: Environmental review is not required because the proposed Zoning Ordinance amendments are not a Project under CEQA Guidelines Sections 15378(a), 15060(c)(2) and 15064(d)(3).

PUBLIC COMMENT

Comments may be made verbally at the public hearing and in writing before the hearing. Written comments concerning this project should be directed to:

Planning Commission
Alene Pearson, Secretary
Land Use Planning Division
1947 Center Street, 2nd floor
Berkeley, CA 94704

Phone: (510) 981-7489
E-mail: **apearson@cityofberkeley.info**

To assure distribution to Commission members prior to the meeting, **correspondence must be received by 12:00 noon, eight (8) days before the meeting date.** Fifteen (15) copies must be submitted of any correspondence that requires color printing or pages larger than 8.5x11 inches.

COMMUNICATION ACCESS

To request a meeting agenda in large print, Braille, or on audiocassette, or to request a sign language interpreter for the meeting, call (510) 981-7410 (voice) or 981-6903 (TDD). Notice of at least five (5) business days will ensure availability.

FURTHER INFORMATION

Questions should be directed to **Alene Pearson** at (510) 981-7489 or **apearson@cityofberkeley.info.** Past and future agendas are also available on the Internet at: https://www.cityofberkeley.info/Clerk/Commissions__Planning_Commission_Homepage.aspx

MEMORANDUM

To: Justin Horner, City of Berkeley

From: Nelson\Nygaard Team

Date: November 25, 2019

Subject: Berkeley Residential Parking Capacity Study

INTRODUCTION AND STUDY PURPOSE

By analyzing actual usage (i.e. occupancy) of residential parking, the purpose of this study is to "right size" off-street parking requirements to meet the City of Berkeley's goals of developing more housing at all affordability levels and encouraging more sustainable transportation modes. In addition to studying off-street parking behavior, compared to what is provided, assessing the efficiency of on-street parking facilities is intended to help meet the City of Berkeley's goals of encouraging more sustainable transportation modes.

The overall purpose of this assessment is to analyze the parking required, provided and utilized at these buildings in order to determine how existing off-street parking regulations match actual usage.

METHODOLOGY

Property Selection Process

The City identified residential properties located within a variety of neighborhoods.

City Staff made initial contact with property's/property managers to request they take a short survey about the property and secondly confirm whether they would allow access to the property for on-site parking survey. A total of 28 survey responses were received, and of that 20 properties were selected for further data collection multi-unit residential buildings (with 10 units or more) in consultation with the city. Selection criteria included:

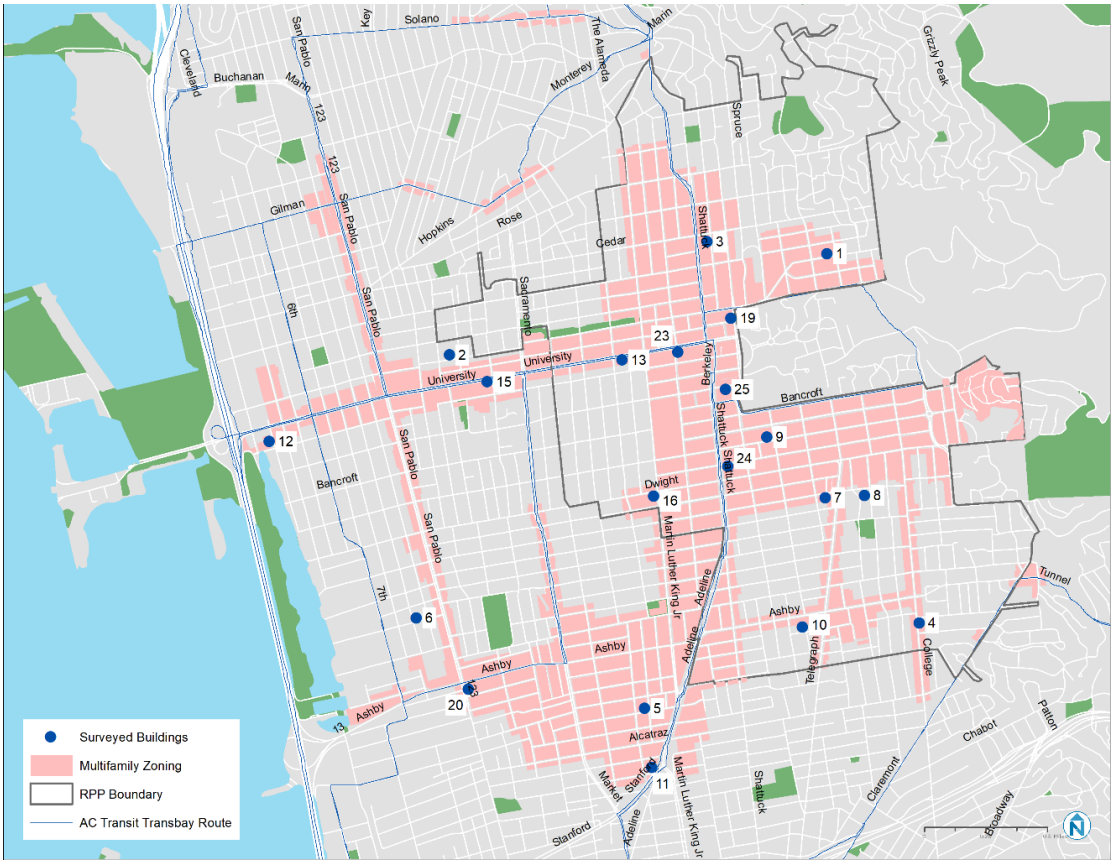
- Geographical distribution within multifamily zoned areas
- Mix of affordable/inclusionary and 100% market rate facilities; and
- A range of property sizes (by number of units)

The surveyed properties are listed in Table 1 and displayed on the Figure 1 on the following page.

Table 1 - Surveyed Properties

ID	Address	Total Units	% Affordable Housing
1	2575 Le Conte Avenue	11	0%
2	1277 Hearst Avenue	8	0%
3	1612 Walnut Street	9	0%
4	3001 College Avenue	10	0%
5	3140 Ellis Street	10	0%
6	2777 Ninth Street	21	0%
7	2414 Parker Street	16	0%
8	2610 Hillegass Avenue	23	0%
9	2239 Channing Way	14	0%
10	2321 Webster Street	18	0%
11	3380 Adeline Street	14	0%
12	651 Addison Street	94	4%
13	1812 University Avenue	44	9%
15	1370 University Avenue	71	97%
16	2500 Martin Luther King Jr Way	10	20%
19	1910 Oxford Street	56	20%
20	3015 San Pablo Avenue	98	15%
23	2004 University Avenue	35	20%
24	2110 Haste Street	100	20%
25	2116 Allston Way	91	20%

Figure 1 - Study Area Map



Note: The number label in each surveyed property in the map corresponds to the ID number in Table 1

Residential Property Manager Survey

A short on-line survey was developed and distributed for the residential property managers to get basic information about their buildings, including total units, total parking spaces, unit vacancies, the number of affordable units, unbundled parking and transportation demand management programs available to residents. A copy of the survey instrument is included in the appendix.

Parking Data Collection

A parking survey was conducted at each property including off-street inventory of parking spaces and total vehicles observed. The survey was conducted when UC Berkeley was in session on a typical weekday evening, between midnight and 5:00am in order to more reliably reflect a time when most residents would be at home.

On-street parking capacity (inventory and occupancy) in the areas around selected buildings was surveyed on the two blockfaces nearest the immediate pedestrian entrance

to each property.[1] This data was collected to help understand neighborhood parking, potential spillover and local context.

Vehicle Registration

The City provided anonymized DMV (Department of Motor Vehicle) and RPP (Residential Parking Permits) data associated with each of the residential properties. The purpose of the analysis was to determine how many vehicles are associated with each property and how many vehicles take advantage of the available Residential Preferential Permit Program rather than parking on the property.

Socioeconomic Assessment

In addition to the property related data collected, a socioeconomic assessment of multifamily housing was performed. It focused on aspects related to vehicle ownership and commute choices in areas zoned for multifamily housing. The team used 2017 ACS 5-year data at census block group (CBG) level and compared ownership and rental tenure, and income.

KEY FINDINGS

Property Survey

- Surveyed properties averaged 41.5 units per building. The median apartment building surveyed had 23 housing units.
- The residential usage rate was relatively high, ranging from 94% to 100%.
- 9 of the 20 buildings studied contained some affordable housing units, with most around 15-20% affordable.
- All 20 properties were within a reasonable walking distance (half mile or less) and 17 within very walkable distance (quarter of mile of less) of high-frequency transit service (BART or Transbay Bus).
- The average built parking ratio was 0.82 per unit.
- Properties with the fewest vehicle registrations per unit appear to be closer to downtown Berkeley.

Parking Survey

- The average parking occupancy across all properties, both on and off-street, is 55%

[1] In some cases where there were multiple entrances, the immediate blockfaces on each entrance were collected.

- There are slightly less than 0.5 vehicles registered per unit on average, yet there is an average 0.82 parking spaces per unit off-street.
- The average and median off-street occupancy for all properties is 0.45 and 0.53 per unit respectively.
- The average and median on-street occupancy for all properties was 60% and 61% respectively.

Socioeconomic Analysis

- In multifamily areas less than 25% of people drive to work alone as opposed to more than 40% in single-family areas.
- In multifamily areas slightly more than 30% of people walk to work as opposed to approximately 7% in single-family areas.
- In general, the share of zero car households in multifamily areas is higher than in single family areas.
- Of the total households in multifamily areas, 40% of renter households do not own a car and about 10% of owner households do not own a car.
- There is more available on-street and off-street parking (particularly near Downtown Berkeley) in those areas that have more renters, have fewer cars and have more residents that commute either on-foot or on transit.

PROPERTY ANALYSIS

Property managers responded to an online survey, providing relevant details for this analysis. The number of housing units in these properties ranges from 8 to 100, with an average of 41.5 units per building. The median apartment building surveyed had 23 housing units. Table 1, above, provides the number of units in each surveyed building. While there are a few vacant units in these properties, the occupancy rate is relatively high, ranging from 94% to 100%. Additionally, 9 of the 20 buildings studied contained some affordable housing units. The share of affordable housing ranged from 4% of the total units to 97%, with most around 15-20% of all units being affordable.

Ninety percent of surveyed properties had unbundled parking, meaning that the cost of parking charged separately from the apartment lease. Only two out of the twenty surveyed buildings did not charge separately for parking. Properties with unbundled parking all reported charging more than $50 per month for a parking space.

All 20 properties were within a reasonable walking distance of high-frequency BART and AC Transit Transbay service.

Sixteen (16) of the properties included secure bike parking within their premises. The number of bicycles these facilities can store ranges from 4 (for a 10-unit apartment building) to 60 (for a 98-unit apartment building). In terms of per-unit bicycle storage, buildings that included secure parking ranged from 0.3 spaces unit to 3 spaces per unit.

All the surveyed properties include parking. The parking supply ranged from 10 parking spaces to 129 parking spaces. The following table summarizes parking supply in per-unit basis. The average built parking spaces was 0.82 per unit.

Table 2 - Built Parking Spaces per Unit

	Median	Mean	Min	Max	20th percentile	80th percentile
Parking Spaces	0.82	0.84	0.20	1.70	0.54	1.15

Similarly,

summarizes DMV vehicle registrations per unit for the surveyed properties. Registrations range from 0 to 69 vehicles per property, with an average of 0.49 vehicle registrations per unit. The data indicate a wide distribution. Figure 2 illustrates the distribution of vehicle registrations per unit across the 20 study properties. Red dots indicate a property with no vehicle registrations, while a large blue dot indicates a ratio of over one (1) vehicle per unit.

Table 3 - DMV Registrations per Unit

	Median	Mean	Min	Max	20th percentile	80th percentile

Vehicle Registrations	0.38	0.49	0	1.80	0.25	0.71

A handful of properties have 15 or more registrations while many have very few. Those properties with the least vehicle registrations per unit as illustrated in Figure 2 appear to be closer to downtown Berkeley.

Figure 2 – Vehicle Registrations per Unit

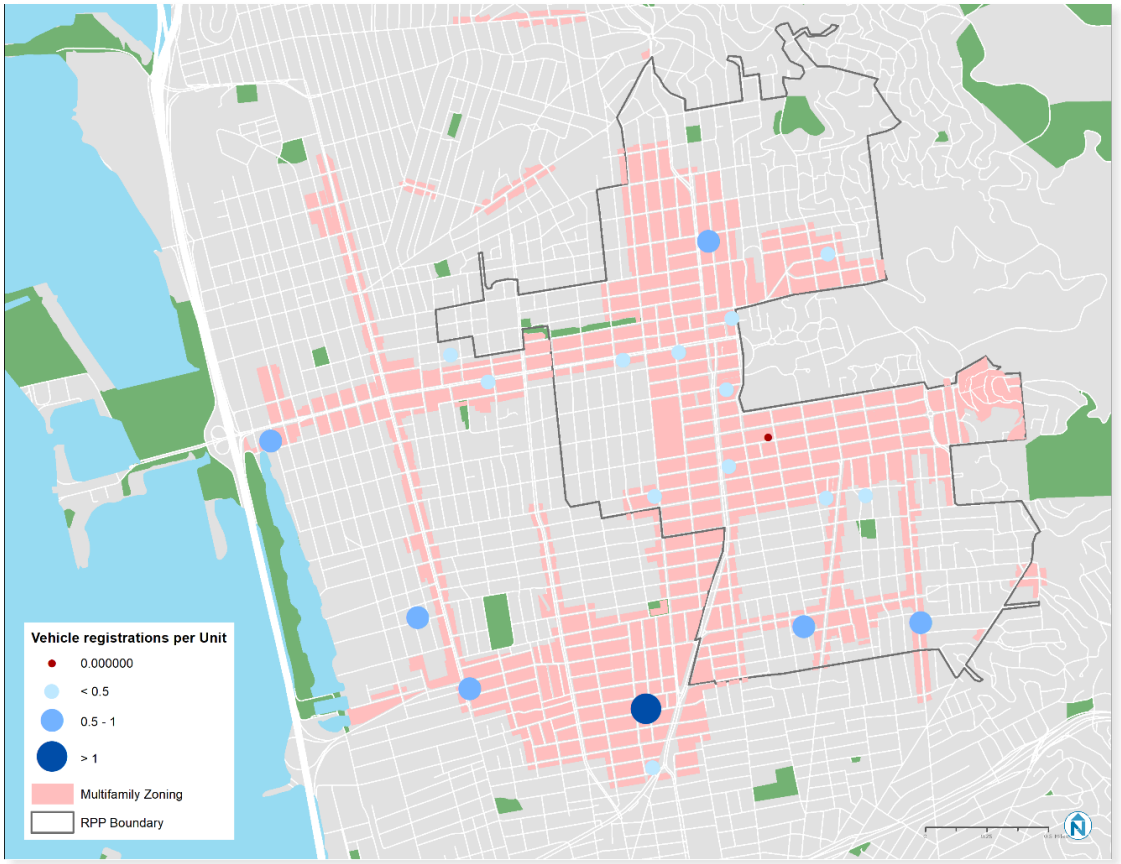
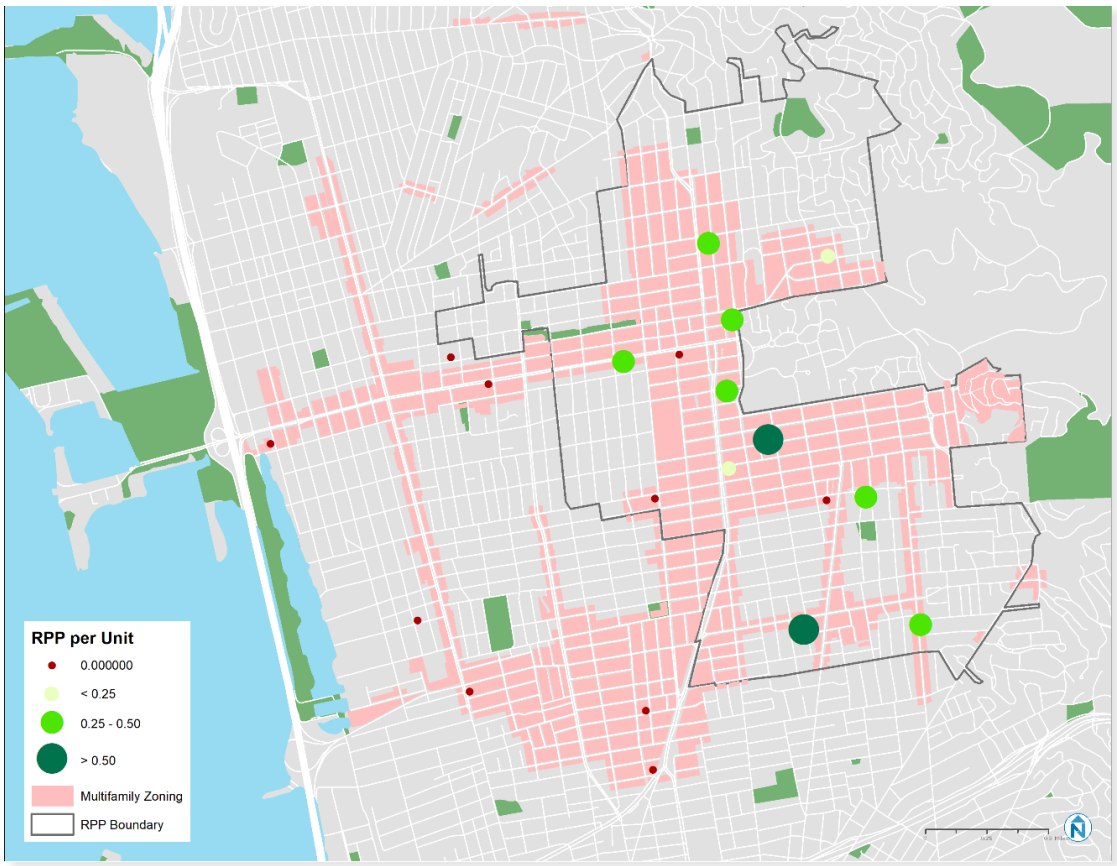


Figure 3 illustrates the distribution of residential preferential permit registrations per unit across the 20 study properties. Red dots indicate a property with no permits, while a large dark green dot indicates a ratio of more than 0.5 permit per unit. As to be expected, only properties within the RPP boundary are associated with residential permit registrations.

Figure 3 - RPP per Unit



PARKING ANALYSIS

The following analysis combines the different data sources and studies trends and patterns on parking supply and parking usage within the surveyed properties and their adjacent streets.

Occupancy

The average parking occupancy across all properties is summarized in Table 4 at 55%. Diving deeper into per unit occupancy and occupancy rates illustrates greater differences in properties with affordable and market rate units.

Table 4 – Parking Occupancy Across all Properties

	Total # Spaces	Occupancy	Occupancy (%)
On-Street	448	297	61%
Off-Street	592	279	54%
Total	1040	576	55%

Off-Street

Table 5 shows parking occupancy and supply by unit. Properties with affordable units also lower occupancy across all categories as compared to purely market rate. This is corroborated with research indicating that lower income/ affordable housing residents are more transit dependent and less likely to own a vehicle.[2]

Table 5 – Off-Street Parking Occupancy and Supply per Unit

	Off-Street Supply	Off-Street Usage
Average	0.84	0.45
Market rate	0.89	0.55
Affordable/ Inclusionary	0.78	0.33

Table 6 summarizes the range of occupancies across the properties. The mean and median off-street occupancy for all properties is 0.45 and 0.54 per unit respectively.

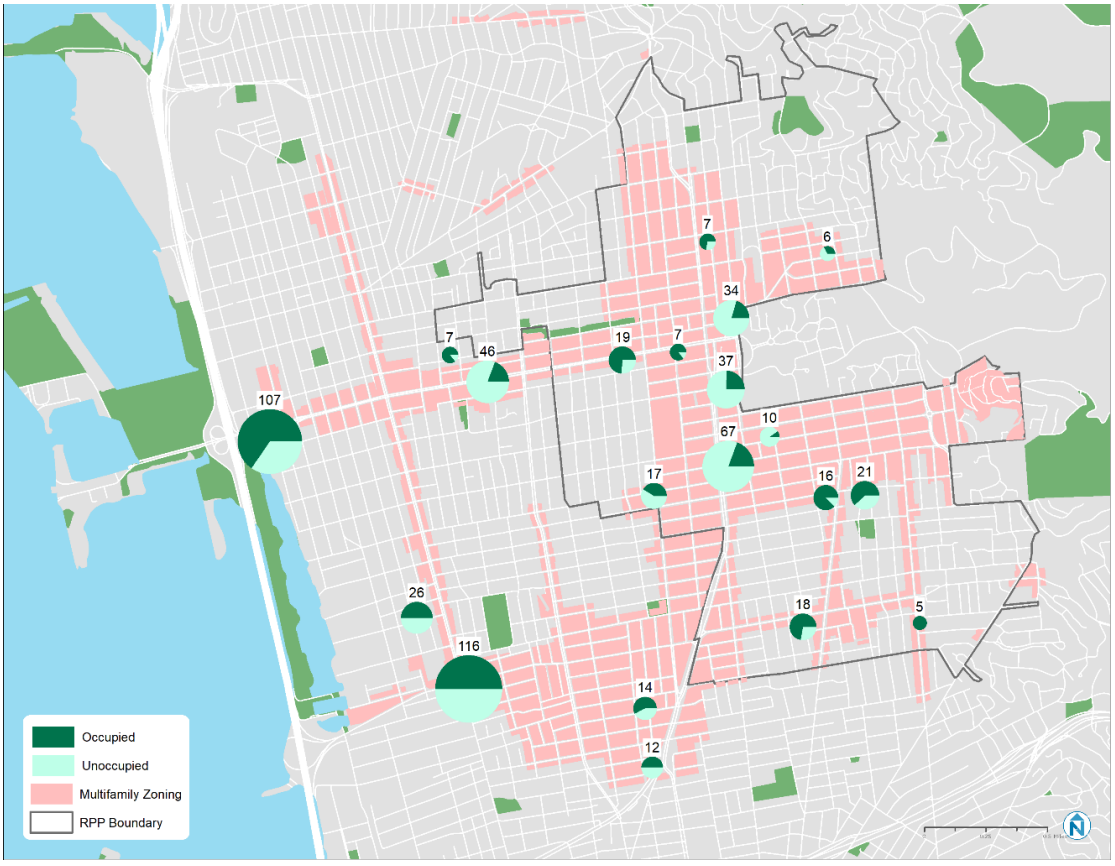
[2] https://www.jtlu.org/index.php/jtlu/article/view/1129/986

Table 6 – Off-Street Parking Occupancy and Supply per Unit

	Median	Mean	Min	Max	20th percentile	80th percentile
Supply	0.82	0.84	0.20	1.17	0.54	1.15
Occupancy	0.53	0.45	0.07	0.88	0.13	0.73

Figure 4 shows the distribution of off-street occupancy counts collected at the 20 study properties. The size of the pie chart indicates the total inventory of off-street parking available at the site and the dark green vs. light green is an indication of how much parking was occupied. There appears to be a larger proportion of unoccupied off-street parking when the buildings are located closer to UC Berkeley campus and the downtown area, which could be explained by student populations and proximity to BART.

Figure 4 - Off-Street Parking

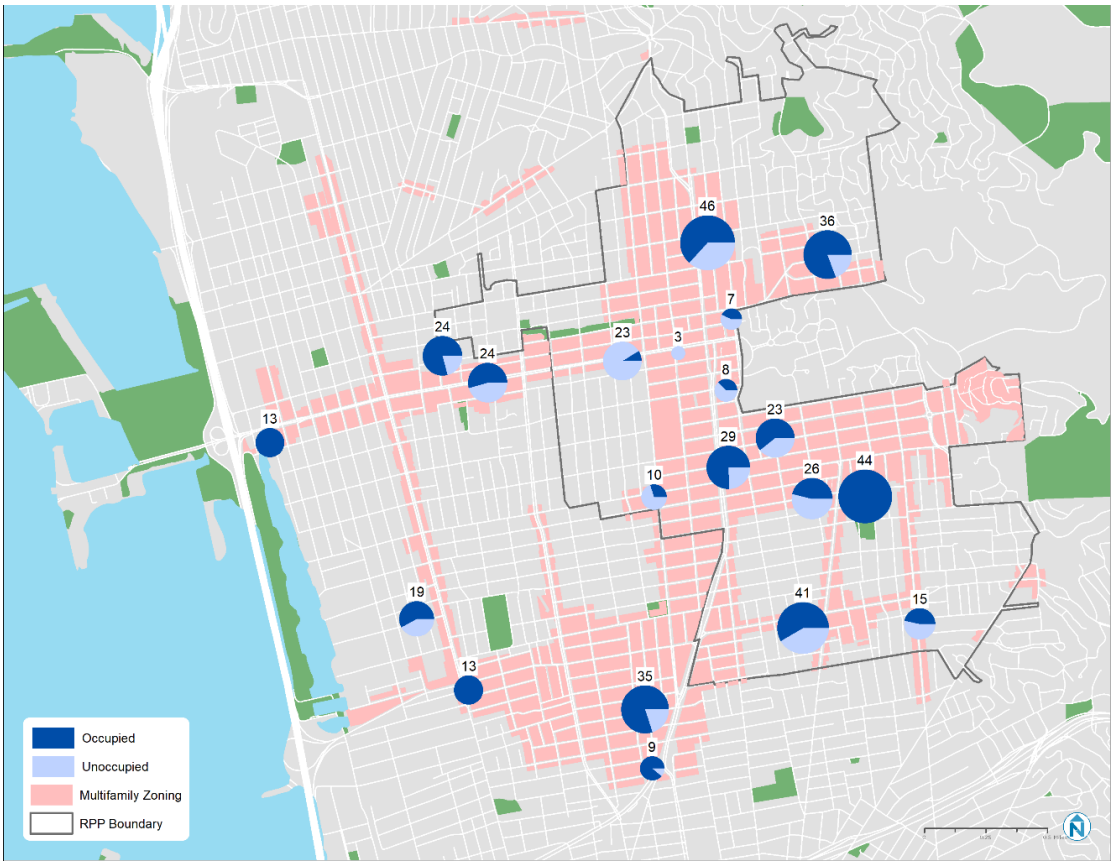


Note: Size of the pie chart and number on top indicate the total parking spaces

On-Street

Figure 5 shows the distribution of on-street occupancy counts collected at the 20 study properties. On-street parking capacity in the areas around selected buildings was surveyed on the two blockfaces nearest the immediate pedestrian entrance to each property.[3] The size of the pie chart indicates the total inventory of on-street parking counted at the site and the dark blue vs. light blue is an indication of how much parking was occupied. Table 6 summarizes the range of occupancies across the properties. The average on-street occupancy for all properties was 61%. There did not appear to be any noticeable on-street occupancy pattern based on neighborhood.

Figure 5 - On-Street Parking



Note: Size of the pie chart and number on top indicate the total parking spaces

[3] In some cases where there were multiple entrances, inventory and occupancy at the immediate blockfaces on each entrance were collected.

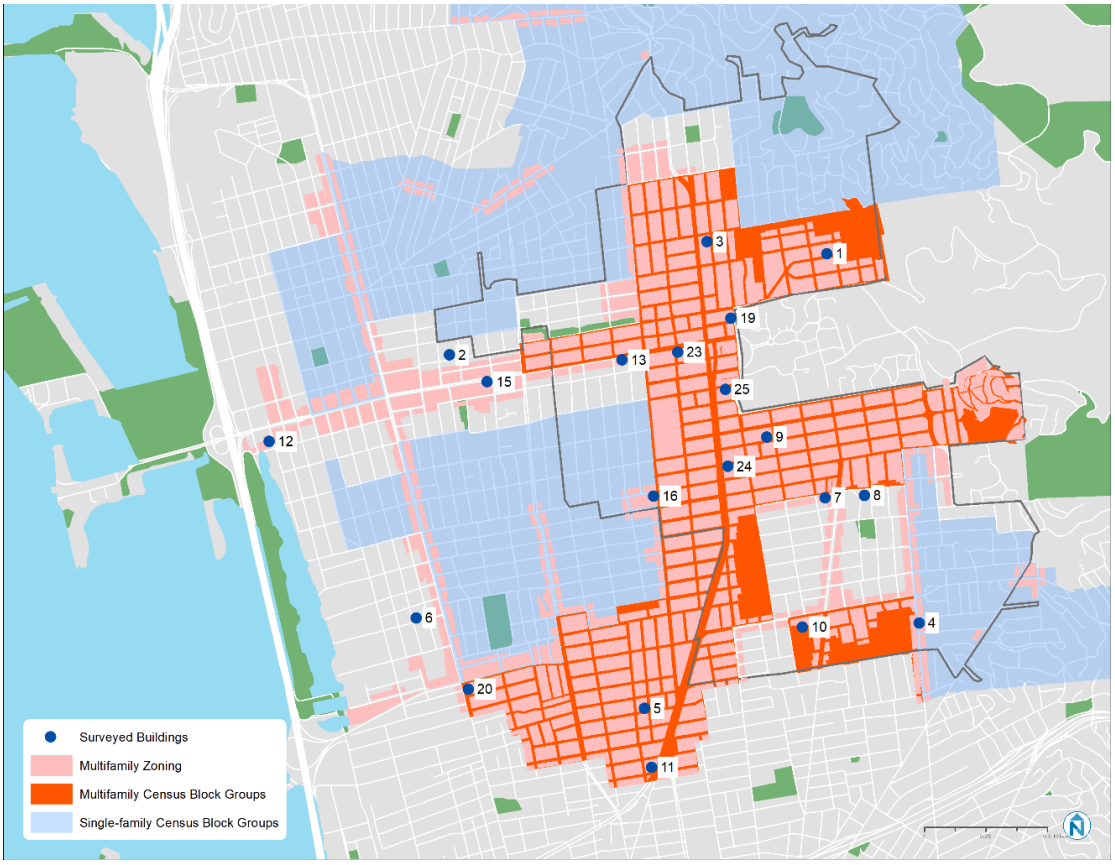
Table 7 – On-Street Parking Occupancy and Supply (# vehicles/ # spaces %)

	Median	Mean	Min	Max	20th percentile	80th percentile
Supply (#)	23	22	3	46	9.8	35.2
Occupancy (#)	13	14.9	0	44	3	24.8
Occupancy (%)	60%	61%	0%	100%	42%	82%

SOCIOECONOMIC ASSESSMENT

The project team evaluated characteristics of multifamily and single-family housing in Berkeley. This city-level assessment focused on aspects related to car-ownership that could provide context to the results of the parking capacity survey analysis. The team used 2017 American Community Survey (ACS) 5-year data at a census block group (CBG) level. A qualitative assessment was made to define CBGs as "multifamily housing" or "single-family housing," based on the City of Berkeley zoning areas. CBGs were defined as either multifamily or single-family if one of the two types of land use covered most of the CBG. CBGs with an ambiguous mix of single-family and multifamily were excluded from the analysis. Figure 6 shows that most of the surveyed buildings (16) are located within multifamily zoning and in CBGs that the project team defined as multifamily. As a result, the socioeconomic assessment of the multifamily CBG (and its differences with single family areas) complement the conclusions from the survey and observation analysis.

Figure 6 – Multifamily Zoning and Census Block Groups



Note: Census block groups along the University corridor were neither defined as single nor multifamily since it was not clear the dominant zoning type in that CBG.

Figure 7 indicates that more than 40% of workers living in single-family CBGs drive alone to work as opposed to slightly more than 20% in multifamily CBGs. ACS data also shows that the share of workers walking to work in multifamily CBGs is higher (30%) than those living in single-family areas (7%).

Figure 7 - Means of transportation to work, multifamily vs single-family CBG

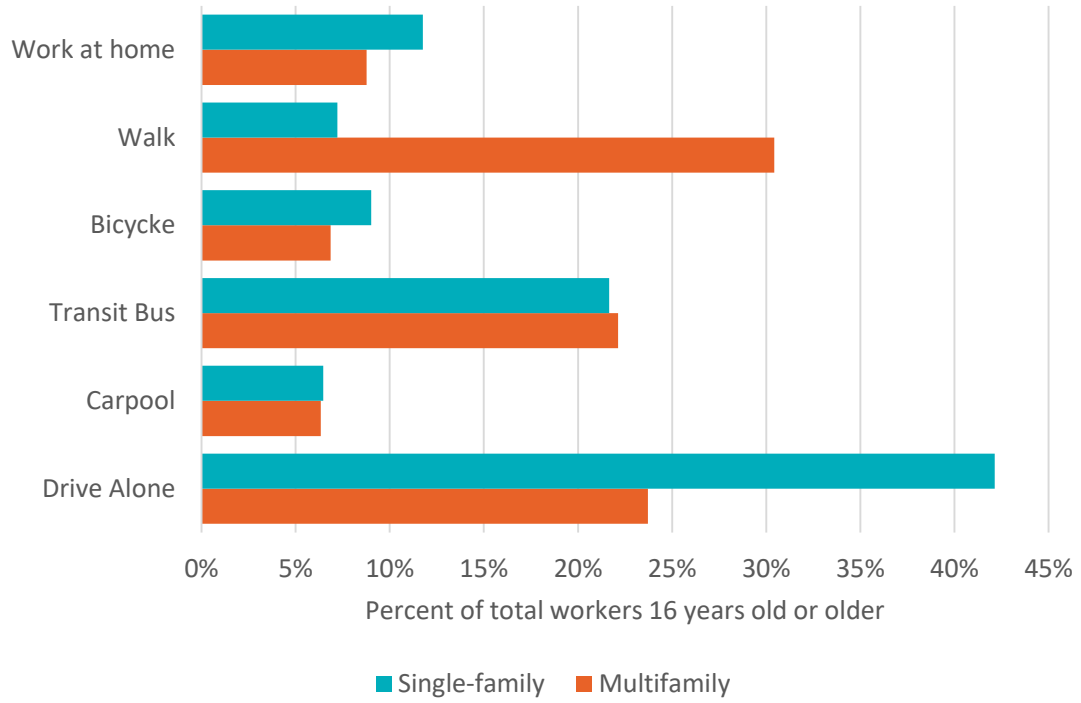


Figure 8 and Figure 9 show car-ownership by tenure in multifamily and single-family areas respectively. Approximately 40% of renters in multifamily areas do not have a car, double that of renters in single-family areas. Interestingly, homeowners show a similar car ownership pattern regardless of housing type. In multifamily housing areas, 89% of owners have at least one car, which is very close to the 95% of owners in single-family areas.

Figure 8 – Vehicle ownership by tenure, multifamily CBG

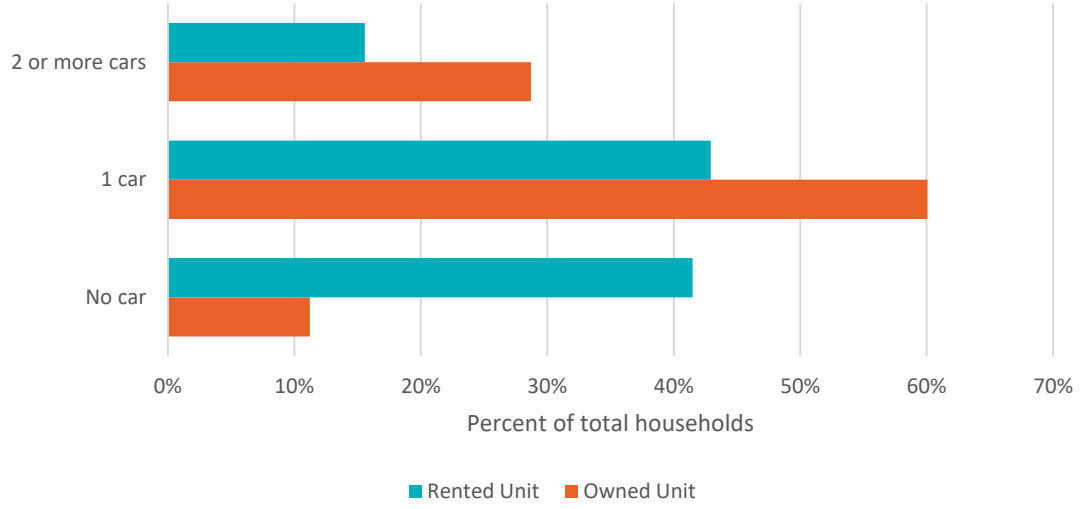
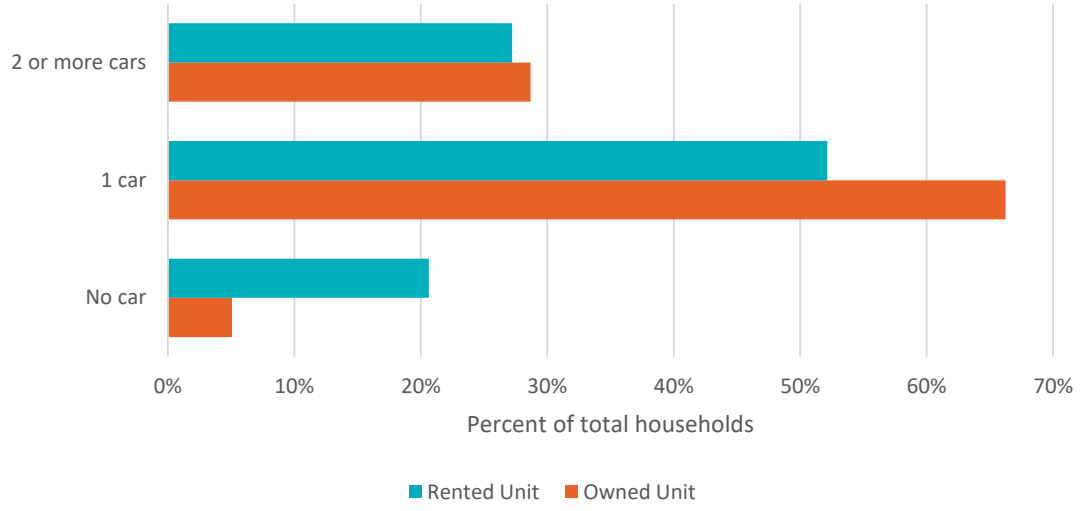


Figure 9 – Vehicle ownership by tenure, single-family CBG



APPENDICES

A. Property Survey Instrument

B. Property Survey Parking Data

Berkeley Parking Utilization Survey

Thank you very much for helping the Berkeley Planning Department by completing this survey. We expect this survey to only take about 5-10 minutes. After you submit the survey, we will contact you to arrange a visit to your building for a one-time parking count. If you have any questions about the survey or need any assistance, please contact Justin Horner, Associate Planner, at 510-981-7476 or jhorner@cityofberkeley.info

*** 1. Residential Building Address**

*** 2. Site Contact Name**

*** 3. Site Contact Email**

*** 4. Is there a Property Management Company?**

Berkeley Parking Utilization Survey

5. Name of the Management Company

Berkeley Parking Utilization Survey

* 6. Total Number of Residential Units

* 7. Total Number of Occupied Residential Units

* 8. Does this building have affordable residential units?

Berkeley Parking Utilization Survey

* 9. Total Number of Affordable Residential Units

Berkeley Parking Utilization Survey

* 10. Do you know how many residential units are occupied with residents that have vehicles?

Berkeley Parking Utilization Survey

* 11. Total number of residential units occupied by residents with vehicles

Berkeley Parking Utilization Survey

* 12. Total number of parking spaces designated for residential use

* 13. Are there any parking spaces designated for residential use that are used by non-residents

Berkeley Parking Utilization Survey

*** 14. Total number of spaces designated for residents that are used by non-residents**

Berkeley Parking Utilization Survey

*** 15. Do residents pay for on-site vehicle parking under separate agreement?**

- ○ Yes. Parking is rented/deeded separately
- ○ No. Parking is free or included in rent or condo fee

Berkeley Parking Utilization Survey

* 16. Is the monthly cost of parking less or more than $50/month?

- ○ Less Than $50
- ○ More Than $50
- ○ N/A

Berkeley Parking Utilization Survey

*** 17. Does your building offer any of the following benefits? (select all that apply)**

- [ ] Secure Bike Parking
- [ ] Discounted Transit Passes for Residents
- [ ] On-site Car-share vehicles
- [ ] None of the Above
- [ ] Other (please specify)

Berkeley Parking Utilization Survey

* 18. What is the capacity of of your on-site bike parking (i.e. how may bikes can park)?

Berkeley Parking Utilization Survey

* 19. Do you think there are residents with cars who are parking off-site?

* 20. Is there anything special or particular about residential parking in your building that you believe would be helpful for us to understand your building's situation better?

Appendix B - Berkeley Parking Survey Utilization Data

ID	Residential Building Address	Name of the Management Company	Total Number of Residential Units	Total Number of Occupied Residential Units	Does this building have affordable residential units?	Total Number of Affordable Residential Units	Do you know how many residential units are occupied with residents that have vehicles?	Total number of residential units occupied by residents with vehicles	Total number of parking spaces designated for residential use	Are there any parking spaces designated for residential use that are used by non-residents	Total number of spaces designated for residents that are used by non-residents	Do residents pay for on-site vehicle parking under separate agreement?	Is the monthly cost of parking less or more than $50/month?	Does your building offer any of the following benefits? (select all that apply)
ID	Open-Ended Response	Open-Ended Response	Open-Ended	Open-Ended R	Response	Open-Ended	Response	Open-Ended Re	Open-Ended Re	Response	Open-Ended Respo	Response	Response	Secure Bike Parking
1	2575 Le Conte Ave.	Premium Properties	11	11	No		Yes	4	8	No		Yes. Parking is rented/d	More Than $50	
2	1277 Hearst St.	Premium Properties	8	8	No		Yes	5	15	No		Yes. Parking is rented/d	More Than $50	
3	1612 Walnut St.	Premium Properties	9	9	No		Yes	5	9	No		Yes. Parking is rented/d	More Than $50	Secure Bike Parking
4	3001 College Ave.	Premium Properties	10	10	No		Yes	6	10	No		Yes. Parking is rented/d	More Than $50	Secure Bike Parking
5	3140 Ellis St.	Premium Properties	10	10	No		Yes	5	7	No		Yes. Parking is rented/d	More Than $50	
6	2777 9th St.	Premium Properties	21	21	No		Yes	20	21	No		No. Parking is free or included in rent or cond		Secure Bike Parking
7	2414 Parker St.	Premium Properties	16	16	No		Yes	9	16	No		Yes. Parking is rented/d	More Than $50	Secure Bike Parking
8	2610 Hillegass Ave.	Premium Properties	23	23	No		Yes	10	22	No		Yes. Parking is rented/d	More Than $50	Secure Bike Parking
9	2239 Channing Way	Premium Properties	14	14	No		Yes	0	6	Yes	4	Yes. Parking is rented/d	More Than $50	
10	2321 Webster St.	Premium Properties	18	18	No		Yes	13	18	Yes	1	Yes. Parking is rented/d	More Than $50	Secure Bike Parking
11	3380 Adeline St.	Premium Properties	14	14	No		Yes	6	12	No		Yes. Parking is rented/d	More Than $50	Secure Bike Parking
12	651 Addison St, Berkeley, CA 94710	Avalonbay Communities	94	89	Yes	4	Yes	85	101	No		Yes. Parking is rented/d	More Than $50	Secure Bike Parking
13	1812 University Avenue Berkeley, CA 94703	SG Real Estate	44	44	Yes	4	No		17	No		Yes. Parking is rented/d	More Than $50	Secure Bike Parking
15	1370 university Ave	Equity Residential	71	67	Yes	69	No		61	Yes	4	Yes. Parking is rented/d	More Than $50	Secure Bike Parking
16	2500 Martin Luther King Jr., Way		10	10	Yes	2	Yes	9	10	No		No. Parking is free or included in rent or cond		Secure Bike Parking
19	1910 Oxford Street Berkeley CA 94704	The Dinerstein Companies	56	56	Yes	11	No		36	No		Yes. Parking is rented/d	More Than $50	Secure Bike Parking
20	3015 San Pablo Ave	Gerding Edlen	98	92	Yes	15	No		100	No		Yes. Parking is rented/d	More Than $50	Secure Bike Parking
23	2004 University Ave. Berkeley CA, 94704	The Dinerstein Companies	35	35	Yes	7	No		6	No	unknown	Yes. Parking is rented/d	More Than $50	Secure Bike Parking
24	2110 Haste St. Berkeley CA, 94704	The Dinerstein Companies	100	100	Yes	20	No		64	Yes	unknown	Yes. Parking is rented/d	More Than $50	Secure Bike Parking
25	2116 Allston Way	The Dinerstein Companies	91	91	Yes	18	No		40	No		Yes. Parking is rented/d	More Than $50	Secure Bike Parking
x	2002 Addison St, Berkeley CA, 94704	The Dinerstein Companies	27	27	Yes	4	No		18	No		Yes. Parking is rented/d	More Than $50	Secure Bike Parking
x	2020 Bancroft Way - 2025 Durant Avenue	Everest Properties	105	104	No		Yes	51	106	Yes	40	Yes. Parking is rented/d	More Than $50	Secure Bike Parking
x	1627 University Ave Berkeley CA 94703	The Dinerstein Companies	34	32	Yes	6	No		21	No		Yes. Parking is rented/d	More Than $50	Secure Bike Parking
x	1901 Dwight Way Berkeley, CA 94704	SG Real Estate	21	21	Yes	3	Yes	12	14	No		Yes. Parking is rented/d	More Than $50	
x	2121 Dwight Way	Greystar	99	96	Yes	9	No		41	No		Yes. Parking is rented/d	More Than $50	Secure Bike Parking

Appendix B - Berkeley Parking Survey Utilization Data

ID	Residential Building Address					Capacity of of your on-site bike parking?	Are there residents with cars who are parking off-site?	Is there anything special or particular about residential parking in your building that you believe would be helpful for us to understand your building's situation better?	OFF Street	OFF Street	ON Street	ON Street
ID	Open-Ended Response	Discounted Tra	On-site Car-sh	None of the Ab	Other (please	Open-End	Response	Open-Ended Response	TOTAL Supply	TOTAL Occupancy	TOTAL Su	TOTAL Occupancy
1	2575 Le Conte Ave.			None of the Above			Yes	No	6	2	36	29
2	1277 Hearst St.			None of the Above			Yes	No	7	6	24	19
3	1612 Walnut St.					4-5	Yes	No	7	5	46	29
4	3001 College Ave.					2-3	Yes	No	5	5	15	7
5	3140 Ellis St.			None of the Above			Yes	No	14	8	35	28
6	2777 9th St.					Not sure	Yes	No	26	13	19	11
7	2414 Parker St.					Not sure	Yes	No	16	14	26	12
8	2610 Hillegass Ave.					Not sure	Yes	No	21	13	44	44
9	2239 Channing Way			None of the Above			Yes	No	10	1	23	14
10	2321 Webster St.					Not sure	Yes	No	18	13	41	24
11	3380 Adeline St.					Not sure	Yes	No	12	6	9	8
12	651 Addison St, Berkeley, CA 94710					27	Yes	All parking spaces are in the garage & 42 are standard parking spaces with 8 spaces with EV charging stations & 59 stack parking spaces	107	70	13	13
13	1812 University Avenue Berkeley, CA 94703					50	Yes	Thank you	19	14	23	2
15	1370 university Ave					40	Yes	Parking is $150 per month in our building. Residents are all in affordable units so most residents park on the street surround building	46	9	24	13
16	2500 Martin Luther King Jr., Way					30 We ha	No	Besides the 10 parking spots for the residential units all numbered there are 5 other parking spots for the 2 commercial units, a Chiropractor and Art Studio that	17	7	10	3
19	1910 Oxford Street Berkeley CA 94704					20	Yes	Parking is located in the garage which is gate controlled access. We have a Klaus system that allows multiple cars to park in the same space	34	7	7	3
20	3015 San Pablo Ave					60	Yes	matrix system - Matthews Mechanical	116	58	13	13
23	2004 University Ave. Berkeley CA, 94704					unknown	Yes	We utilize a Klaus machine to optimize garage space	7	6	3	0
24	2110 Haste St. Berkeley CA, 94704					unknown	Yes	utilize Klaus machine to optimize space in garage	67	13	29	22
25	2116 Allston Way					unknown	Yes	our building have a Klaus machine to optimize garage space	37	9	8	3
x	2002 Addison St, Berkeley CA, 94704					unknown	Yes	We utilize a Klaus machine to optimize garage space	NA	NA	NA	NA
x	2020 Bancroft Way - 2025 Durant Avenue					40	No	Mix of outdoor and indoor spaces.	NA	NA	NA	NA
x	1627 University Ave Berkeley CA 94703					20	Yes	Gated garage	NA	NA	NA	NA
x	1901 Dwight Way Berkeley, CA 94704			None of the			Yes	Thank you	NA	NA	NA	NA
x	2121 Dwight Way	Discounted Transit Passes for Residents				50 +	Yes	spots	NA	NA	NA	NA

Planning and Development Department
Land Use Planning Division

STAFF REPORT

DATE: December 4, 2019

TO: Members of the Planning Commission

FROM: Justin Horner, Associate Planner

SUBJECT: Proposed Transportation Demand Management Program and Reduction of Parking Requirements

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RECOMMENDATION

Review report and parking utilization study, provide feedback on a proposed Transportation Demand Management (TDM) program for new residential and mixed-use residential development of ten or more dwelling units, and consider recommendation to eliminate minimum parking requirements for certain multi-family projects.

BACKGROUND

In response to the City Council's Green Affordable Housing Package and the City-wide Green Development Requirements referrals, the Planning Commission discussed potential parking reform at their July 17, 2019 meeting (see *Attachment 1*). Planning Commission requested development of a Transportation Demand Management (TDM) requirement for new residential and mixed-use residential development in Berkeley that would result in 10 or more dwelling units. They also discussed a proposal to conduct a Residential Parking Capacity Study (Parking Study) to provide data on real-world residential parking usage and to inform future discussions about TDM and parking requirement reform.

At their meeting of October 2, 2019, the Planning Commission discussed four specific TDM frameworks and directed staff to return with a TDM program that included specific recommended elements. They also requested that TDM be discussed with reductions in parking requirements, in the context of the results of the Parking Study, at their meeting of December 4, 2019.

Presented here is the Parking Study, a recommended TDM program, and a recommendation to eliminate minimum parking requirements for certain multi-family projects. It is requested that the Planning Commission receive this report and its accompanying presentation, provide comments and feedback, and direct staff to develop Zoning Ordinance language for the TDM program to be presented at a public hearing at the February 5, 2020 Planning Commission meeting.

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Residential Parking Utilization Study

In August, 2019, the City of Berkeley entered into a contract with the transportation planning consultant Nelson/Nygaard to conduct a residential parking utilization study (Parking Study). The purpose of the Parking Study is to analyze the actual usage of residential parking, both off-street and on-street, with the goal of reducing minimum parking requirements for residential development and improving the efficiency of on-street parking facilities. By analyzing actual demand for residential parking, the Parking Study would help "right size" parking requirements to meet the City of Berkeley's goals of developing more housing at all affordability levels and encouraging more sustainable transportation modes.

The Parking Study included two survey approaches for each of twenty multi-unit buildings in Berkeley (see *Attachment 2*). The first survey was an on-line questionnaire, completed by a building owner or representative, that included basic information about each building, including the number of units, the number of vacant units, the number of residential parking spaces, whether parking was unbundled, and whether building occupants were offered transportation amenities such as bicycle parking or transit passes. The second survey was an in-person visit to each property, on a weeknight in early October between the hours of 12am and 4am, to physically count parking spaces and parked vehicles.

The Parking Study, included as *Attachment 3* of this report, includes the following key findings:

- **Off-street Residential Parking**

Finding: Across all 20 properties, the average occupancy rate for **off-street residential parking** spaces was **54%** (592 total spaces, with 279 spaces used), with a range of 100% occupancy at one property to 10% at another, with the median building occupancy at 50%. Projects located in the Southside neighborhood had the highest average occupancy at 66%, while projects in Downtown Berkeley had the lowest, at 45%.

Analysis: This finding shows that Berkeley's average occupancy rate falls below that of other cities that have conducted similar studies. For example, King County Metro's *Right Size Parking*[1] study found the utilization rate of required parking was 62% and Washington DC's *Parking Utilization Study*[2] found a utilization rate of 60%. A survey of 40 multi-unit buildings in Chicago[3] found a utilization rate of 65% and a 2010 study of existing projects by the Santa Clara Transportation Authority found a utilization rate of 74%[4]

- **On-street Parking**

Finding: The average occupancy rate for **on-street parking** spaces near the 20 properties was **61%**, with a range of 100% occupancy at two properties to 0% at another, with the median on-street occupancy rate at 59%. 90% of the surveyed properties offered unbundled parking.

[1] https://metro.kingcounty.gov/programs-projects/right-size-parking/pdf/rsp-final-report-8-2015.pdf
[2] https://planning.dc.gov/page/parking-utilization-study
[3] https://www.cnt.org/sites/default/files/publications/CNT_Stalled%20Out_0.pdf
[4] http://www.sjsu.edu/urbanplanning/docs/VTA-TODParkingSurveyReport-VolI.pdf

Analysis: Unbundled parking could motivate residents to park on-street in lieu of paying for parking. While this may be the case, the on-street occupancy finding indicates available on-street spaces in the vicinity of most surveyed buildings with underutilized off-street parking.

- **Car-Ownership**

Finding: Across all 20 properties, there was an average of 0.5 **DMV registrations** per unit. The Parking Study suggested that rates of car ownership are likely higher for homeowners than for tenants. For example, 89% of homeowners who live in census districts that are primarily multi-family have at least one car.

Analysis: Tenants are less likely than homeowners to own a vehicle.

DISCUSSION:

The City Council's original Green Affordable Housing Package (see *Attachment 4*) referral included direction to "reduce or eliminate minimum residential parking requirements if car-sharing spaces…or other TDM measures are provided. It also included consideration of "a cap on residential parking maximums." At their meeting of October 2, 2019, the Planning Commission expressed support for the elimination of parking minimums within a TDM program and the consideration of parking maximums. Staff's proposals addressing these requests follow:

Minimum Parking Requirements

Table 1 shows current off-street parking requirements for zoning districts that currently permit development at densities of ten units or more.

Table 1. Current Off-Street Parking Requirements

Zone(s)	Required Off-Street Parking Spaces
R-3, R-4 C-1, C-N, C-NS, C-SO, C-SA	One per unit, for projects of 10 or fewer units[1] OR One per 1,000 GSF of residential space, for projects of more than 10 units[1]
C-W	One per unit
C-DMU	One per three units[2]
C-T	None

[1] 25% reduction for senior projects
[2] Can be reduced with UP and TDM measures

The findings of the Parking Study, consistent with similar studies undertaken in other jurisdictions, as noted above, indicate that multi-unit developments in Berkeley currently contain more parking than is typically used by building occupants. While nearly all surveyed projects include unbundled parking, the availability of on-street parking in the areas around the surveyed projects indicates that even if residents are avoiding the cost of unbundled parking by using on-street parking, there still remains sufficient on-street parking to meet residents' current needs.

Eliminating Off-street Parking Requirements: Reducing required parking to zero would remove a development standard that can result in the creation of unused parking spaces. Eliminating the construction of unused parking spaces would reduce the cost of overall development and provide the opportunity for square footage within a project to be put to other uses, including residential. In addition, the presence of off-street parking is the primary variable influencing whether an individual decides to own, and therefore use, a private vehicle. Eliminating parking requirements may therefore result in a decrease in private vehicle use.

With the elimination of parking requirements, project sponsors would be given the option of providing parking and would determine the number of spaces a project would include. The Parking Study indicates that there are roughly 0.5 registered vehicles per unit in multi-unit buildings in Berkeley, and required off-street parking is currently 54% occupied, so it is likely that new multi-unit projects would continue to offer off-street parking to meet existing usage trends even with the elimination of this requirement. Under the proposed TDM plan (explained in the next section), all provided parking would be required to be unbundled, which the Parking Study indicates is already standard practice in Berkeley.

Instituting Off-street Parking Maximums: In addition to eliminating required parking, the Planning Commission could also recommend instituting parking maximums. Instituting parking maximums results in all of the benefits of eliminating minimum parking requirements, as discussed above, while also preventing a project sponsor from voluntarily including parking at levels that could contradict those benefits. That is, if parking minimums are eliminated, there would be nothing necessarily preventing a project sponsor from proposing a project that has as much, or even more, parking than is currently required. Such a project could result in less residential square footage, an increase in overall construction costs, and a project that could encourage private vehicle use. By recommending the institution of parking maximums, the Planning Commission would make clear the general policy direction of maximizing residential square footage, discouraging private vehicle use and supporting mode shift to more sustainable travel options.

Staff has two recommendations for Planning Commission to consider:

1. A parking maximum could be 0.5 spaces per unit, which is consistent with the Parking Study's findings on off-street parking utilization and DMV registrations; or
2. A parking maximum at the Zoning Ordinance's current minimum parking requirements, as shown in Table 1 above. This would ensure that current parking usage levels are accommodated, while also providing an option for more off-street parking for projects with special circumstances.

Transportation Demand Management Program

At their October 2, 2019 meeting, the Planning Commission discussed four specific TDM frameworks, and directed staff to return to the Commission with a program that provides benefits to residents, reduces private vehicle trips, and supports mode shift to more sustainable transportation choices. The TDM program should be separated from off-street parking regulations, and would include the following:

- A menu of TDM options for project sponsors to choose from;
- Exemption of 100% affordable projects, projects located in the Southside Car-free Overlay Zone, projects in the C-DMU (which are already subject to TDM requirements), and affordable projects for which a TDM program would result in an unreasonable delay of project approvals or funding;
- Required unbundled off-street parking;
- Required off-street bicycle parking;
- Credit for pedestrian improvements in the vicinity of the project;
- Limitations on RPP permits; and
- Allowance of GreenTRIP Certification as an alternative compliance path.

Given the direction above, the Planning Commission is asked to consider the following TDM Program:

Part 1. Required TDM Measures for All Residential Projects of Ten or More Units

The TDM program would consist of two requirements for all residential projects of ten or more units.

1. Unbundled Parking: Any parking provided by an eligible project would be required to be unbundled. Parking would be offered so that residents or tenants have the option of renting or buying a parking space at an additional cost, and would, thus, experience a cost savings if they opt not to rent or purchase parking.

2. Required Bicycle Parking: Projects would be required to provide the minimum number of bicycle parking spaces indicated in Appendix F of the 2017 *Berkeley Bicycle Plan*.[5] For projects of ten or more units, that requirement is one (1) long-term parking space for every three (3) bedrooms, and two (2) short-term parking spaces, or one (1) short-term parking space per 40 bedrooms, whichever results in more spaces. Long-term bicycle parking is generally covered and secure and only available to building residents. Short-term bicycle parking spaces are typically bike racks available to the general public. Spaces would be designed per the specifications laid out in the 2017 *Berkeley Bicycle Plan*, or as subsequently updated by City staff.

Part 2. Selection of TDM Measures for Residential Projects of Ten or More Units

At their meeting of October 2, 2019, the Planning Commission directed staff to return with a menu of TDM measures from which a project sponsor could select to meet the goals of the program. The Planning Commission directed staff to remove parking supply from the list of TDM measures, to reconsider the "weight" given to each TDM measure to ensure that point totals resulted in meaningful VMT reductions, and to include physical pedestrian improvements and the provision of real-time transportation information as possible TDM measures.

[5] https://www.cityofberkeley.info/uploadedFiles/Public_Works/Level_3_-_Transportation/Berkeley-Bicycle-Plan-2017_AppendixF_Facility%20Design%20Toolbox(1).pdf, p F-125.

Figure 2 below presents an updated menu of TDM options. A proposed project would be required to obtain six (6) points from the available options.

Figure 2. TDM Measures

Improve Walking Conditions	1
Real-Time Transportation Information	1
Transit Passes	
25% of cost	2
50% of cost	4
100% of cost	6
Carshare	
Carshare parking space	1
Carshare membership for each resident	2
Bikeshare Membership	
Free membership with pod 1000ft+	1
Free membership with pod within 1000ft	2

Improved Walking Conditions: The proposed project would include physical changes to the sidewalks and other public infrastructure adjacent to the project site with the intention of increasing physical space for pedestrians and including design elements that increase pedestrian safety and improve accessibility. To obtain credit under this measure, the proposed project must include improvements; in-kind replacement of existing infrastructure would not count. Examples of improvements that could be eligible are included in Appendix B (Pedestrian Design Guidelines) of the 2010 *Berkeley Pedestrian Master Plan*.[6]

Real-Time Transportation Information: A proposed project would include real-time transportation information on physical displays located in prominent locations (lobbies, entries/exits, elevator bays) that would include, but would not be limited to, transit arrivals and departures for nearby transit routes, walking times to these locations, and the availability of car-share vehicles, shared bicycles and shared scooters.

Transit Passes: Monthly, for a period of ten years, adult residents of a proposed project would receive a subsidy to cover the cost of an Adult Local 31-Day AC Transit pass as indicated in Figure 2. By mutual agreement between the building operator and resident, a resident could receive an equivalent cash amount added to a Clipper Card.

[6] https://www.cityofberkeley.info/uploadedFiles/Public_Works/Level_3_-_Transportation/3%20Appendix%20A%20-%20Appendix%20C%20January%202010.pdf. Pp. B-1 – B-50.

Carshare: To obtain credit for providing a carshare space, a proposed project would include a parking space dedicated to a carshare vehicle and a project sponsor would arrange for a carshare vehicle to occupy that space. To obtain credit for providing carshare memberships, the project sponsor would provide a carshare membership at no cost to each resident who is a licensed driver. The cost of using a carshare vehicle would be assumed by the resident. The project sponsor would have the option of making the vehicle available to users who are not residents.

Bikeshare Membership: To obtain credit for providing a bikeshare membership, a bikeshare membership must be provided at no cost to all eligible residents (typically, adults 18 years old or older). An additional point would be awarded for projects in close proximity to bikeshare pods.

Part 3. GreenTRIP as Alternative Compliance Path

Proposed projects could meet the requirements of Part 2 of the TDM program by obtaining certification under TransForm's GreenTRIP program.[7] Projects selecting this option would still be required to meet the requirements of Part 1, above (unbundled parking and bicycle parking).

Other TDM Measures Considered

Shuttles: At their meeting of October 2, 2019, the Planning Commission directed staff to consider permitting residential projects to obtain TDM program credit under Part 2 for contributing to the operation of a private shuttle, such as the Emery Go-Round or the Berkeley Gateway Shuttle. The Berkeley Gateway Shuttle is currently the only private shuttle outside of the UC Berkeley campus area that operates in Berkeley. The Berkeley Gateway Shuttle runs a morning service from 5:37am to 9:44am from Ashby BART to West Berkeley and an afternoon service from West Berkeley to Ashby BART between 3:00pm and 7:00pm.

The Gateway Shuttle is operated by Bayer and Wareham development to service its employees and commercial properties. There are no residential developments currently serviced by the Gateway Shuttle and the shuttle operators are currently not pursuing partnerships with other employers or residential developments in operating the Gateway Shuttle.[8] As there is no existing private shuttle services for potential projects to opt into, it is not recommended that the Planning Commission establish credit under the TDM program for participating in a shuttle service. If such a service becomes more widely available, the Planning Commission can direct staff to reconsider the recommendation and add a shuttle option to Part 2 of the program.

DISCUSSION AND NEXT STEPS

Planning Commission is asked to provide final policy direction on the following questions and request a public hearing on February 5, 2020 to consider specific Zoning Ordinance amendments.

[7] http://www.transformca.org/landing-page/greentrip
[8] Jennifer Cogley, Deputy Director, Community Relations, Bayer LLC, conversation with City staff, November 14, 2019.

***Question for Planning Commission**: Should minimum parking requirements be eliminated for residential developments of ten units or more?*

***Question for Planning Commission**: Should maximum parking requirements be instituted for residential developments of ten units or more? What should be the maximum number of allowable off-street parking spaces?*

***Question for Planning Commission**: Does the proposed TDM program reflect Planning Commission's feedback? If no, what changes are needed?*

ATTACHMENTS:

1. Staff Report on Parking Reform: Transportation Demand Management & Modifications to Off-Street Parking Requirements (July 17, 2019)
2. Map of surveyed properties
3. Residential Parking Capacity Study
4. Green Affordable Housing Referral

BMC Chapters Affected by Zoning Ordinance Amendments

New Chapters

- 23C.18 [Transportation Demand Management]
- 23C.19 [Off-Street Parking Maximums for Residential Development]

Revisions to Variances Chapter

- 23B.44.010 [Variances: Variances]

Revisions to Provisions Applicable in All Residential Districts Chapter

- 23D.12.010 [Off-Street Parking Requirements: Purposes]
- 23D.12.020 [Off-Street Parking Requirements: Applicability]
- 23D.12.050 [Off-Street Parking Requirements: Number of Parking Spaces Required]
- 23D.12.060 [Off-Street Parking Requirements: Joint Use of Off-Street Parking Spaces]
- 23D.12.065 [Off-Street Parking Requirements: Bicycle Parking]
- 23D.16.080 [R-1 Single Family Residential District Provisions: Parking – Number of Spaces]
- 23D.18.080 [R-1A Limited Two-Family Residential District Provisions. Parking – Number of Spaces]
- 23D.24.080 [ES-R Environmental Safety-Residential District Provisions: Parking--Number of Spaces]
- 23D.28.080 [R-2 Restricted Two-Family Residential District Provisions: Parking--Number of Spaces]
- 23D.32.080 [R-2A Restricted Multiple-Family Residential District Provisions: Parking—Number of Spaces]
- 23D.36.080 [R-3 Multiple Family Residential District Provisions: Parking -- Number of Spaces]
- 23D.40.080 [R-4 Multiple-Family Residential District Provision: Parking – Number of Spaces]
- 23D.44.080 [R-5 High Density Residential District Provisions: Parking – Number of Spaces]
- 23D.48.080 [R-S Residential Southside District Provisions: Parking – Number of Spaces]
- 23D.52.080 [R-SMU Residential Southside Mixed Use District Provisions: Parking – Number of Spaces]

Revisions to Provisions Applicable in All Non-Residential Districts Chapter

- 23E.28.010 [Off-Street Parking and Transportation Services Fee: Purposes]
- 23E.28.020 [Off-Street Parking and Transportation Services Fee: Applicability]
- 23E.28.050 [Off-Street Parking and Transportation Services Fee: Uses Permitted]
- 23E.28.070 [Off-Street Parking and Transportation Services Fee: Bicycle Parking]

- 23E.64.080 [C-W West Berkeley Commercial District Provisions: Off-Street Parking and Loading Requirements]
- 23E.68.080 [C-DMU Downtown Mixed Use District Provisions: Parking – Number of Spaces]
- 23E.80.080 [MU-LI Mixed Use-Light Industrial District Provisions: Parking – Number of Spaces]
- 23E.84.080 [MU-R Mixed Use Residential District Provisions: Off-Street Parking and Loading Requirements]

In addition, Planning Commission is asked to consider optional changes to the Variance section (23B.44.010), which may be appropriate if the Planning Commission adopts Zoning Ordinance amendments that preserve residential parking requirements in certain instances (Attachment 7)

Attachment 7: Sub-Title 23E

[PROVISIONS APPLICABLE IN ALL NON-RESIDENTIAL DISTRICTS]

Chapter 23E.64: C-W West Berkeley Commercial District Provisions

23E.64.080 Off-Street Parking and Loading Requirements

A. All parking shall be provided in accordance with the requirements of this section and Chapter 23E.28, except as set forth in this section.

B. The district minimum standard parking requirement for commercial floor area is two spaces per 1,000 square feet of gross floor area. Uses listed in Table 23E.64.080 shall meet the requirements listed, for newly constructed floor area, except as otherwise modified in this subsection, and Subsections F through I below.

Table 23E.64.080	
Parking Required*	
Use	Number of spaces
Dormitories, Fraternity and Sorority Houses, Rooming and Boarding Houses and Senior Congregate Housing	~~One per each five residents; plus one for manager~~None required
Dwelling Units	~~One per unit, except as modified by provisions for shared parking in Section~~ 23E.64.080.~~G; 75% less for Seniors (see below)~~None required
Hospitals	One per each four beds; plus one per each three employees
Hotels	One per each three guest/sleeping rooms or suites; plus one per each three employees
Libraries	One per 500 sq. ft. of floor area that is publicly accessible
Live/Work Units	~~One per unit, provided, however, that if~~ If any workers and/or clients are permitted in any work area, there shall be one ~~additional~~ parking space for the first 1,000 sq. ft. of work area, one ~~further~~ parking space for each additional 750 sq. ft. subject to any additional requirements for parking pursuant to Section 23E.20.040.B

Table 23E.64.080	
Parking Required*	
Use	Number of spaces
Manufacturing uses (assembly, production, storage and testing space only)	One per 1,000 sq. ft. of floor area
Medical Practitioner Offices	One per 300 sq. ft. of floor area
Motels	One per each guest/sleeping room; plus one space for owner or manager**
Wholesale Trade	One per 1,000 sq. ft. of floor area
*See Subsection J for substitutions of up to 10% with bicycle/motorcycle parking **Required parking shall be on the same lot as the building it serves	

C. Unless otherwise specified in Subsections F-~~H~~I, uses designated in this chapter as Other Industrial Uses; Automobile and Other Vehicle Oriented Uses; Outdoor Uses; Residential and Related Uses or as Miscellaneous Uses shall be required to provide the number of off-street parking spaces determined by the Zoning Officer or Board based of the amount of parking demand generated by the particular use and comparable with specified standards for other uses.

D. The number of parking spaces provided for new commercial floor area shall not exceed four spaces per 1,000 square feet of gross floor area of the commercial use, except that up to five spaces per 1,000 square feet of gross floor area of food service uses may be provided.

E. Bicycle parking spaces shall be provided for new construction at the ratio of one space per 2,000 square feet of gross floor area of non-residential space, in accordance with Section 23E.28.070.

F. Any automobile parking required by this section may be leased, provided that the requirements of the general regulations concerning leased parking, Section 23E.28.030, are met and provided that the leased parking spaces are within 500 feet of the property where the parking is required; provided that leased parking a greater distance from the property may be approved by Administrative Use Permit and that if the property is located within a designated node, the leased parking spaces are located within the same designated node as the property.

~~G. For multiple dwellings where the occupancy will be exclusively for persons over the age of 62 years, the number of required off-street parking spaces may be reduced to 25% of what would otherwise be required for multiple family dwelling use, subject to obtaining a Use Permit.~~

GH~~.~~ Any mixed use building (residential and commercial) shall satisfy the off-street parking standards and requirements of this District, provided, however, that the Board or the Zoning Officer may issue a Permit to ~~modify~~ reduce or eliminate the off-street parking and usable open space requirements where it finds such modification promotes any of the general purposes set forth in 23E.64.020. The Permit required shall be an Administrative Use Permit unless a Use Permit from the Board is required to approve the use or structure, in which case a Use Permit shall be required by the Board.

HI~~.~~ If a public parking facility available for use by all members of the public is within 1,000 feet of a proposed use, the Zoning Officer or Board may approve a Use Permit to allow that use to reduce or eliminate the otherwise required parking.

IJ~~.~~ Subject to the finding in Section 23E.64.090.F, an Administrative Use Permit may be issued to designate up to 10% of automobile parking required for a use for bicycle and/or motorcycle parking, unless a Use Permit from the Board is required to approve any part of the application, in which case the Use Permit shall be approved by the Board. Any bicycle parking created by this designation shall be in addition to otherwise required bicycle parking.

JK~~.~~ Notwithstanding the requirements of Section 23E.28.080 (the general regulations concerning screening and landscaping of off-street parking), there shall be no requirement for screening or landscaping of that portion of any parking lot which is adjacent to Third Street (Southern Pacific Railroad).

KL~~.~~ No off-street automobile parking may be provided between the front property line and a main structure within a designated node. Outside of a designated node, no off-street automobile parking may be provided between the front property line and a main structure unless an Administrative Use Permit is obtained; unless a Use Permit is required to approve the use or structure, in which case the Use Permit shall be approved by the Board. In order to approve this Permit, the Zoning Officer or Board shall make the finding under Section 23E.64.090.E.

LM~~.~~ No building or site shall be altered in such a way as to deprive any leasable space which is used or designated to be used by any manufacturing or wholesale trade use of all loading spaces which meet the general regulations concerning Loading Spaces (Chapter 23E.32).

~~M~~N. Any construction which results in the creation of 10,000 square feet of new or additional commercial gross floor space shall satisfy the loading space requirements of Chapter 23E.32. (Ord. 7635-NS § 20, 2019; Ord. 6856-NS § 19 (part), 2005: Ord. 6478-NS § 4 (part), 1999)

Chapter 23E.68: C-DMU Downtown Mixed-Use District Provisions

23E.68.080 Parking -- Number of Spaces

A. All parking shall be provided in accordance with the requirements of this Section and Chapter 23E.28, except as set forth in this Section. No change of commercial use within the existing floor area of a building shall be required to meet the off-street parking requirements of this Section or Chapter 23E.28, unless the structure has been expanded to include new floor area.

B. The District minimum standard vehicle parking space requirement for all floor area is one and a half spaces per each 1,000 square feet of gross floor area or as required for the uses listed in the following table.

Use	Number of Parking Spaces Required
Dwelling Units~~, Single and Multi-Family Buildings~~	~~One per three dwelling units~~None required
Hotels and Motels, Tourist (Including Inns, Bed and Breakfast and Hostels)	One per each three guest/sleeping rooms or suites
Group Living Accommodations (Including Single Room Occupancy Residential Hotels) and Nursing Homes	~~One per eight sleeping rooms~~ None required.

1. Additions up to 1,000 square feet of gross floor area, or up to twenty-five percent (25%) of existing gross floor area, whichever is less, are exempt from the parking requirements for new floor area.

2. Parking spaces shall be provided on site, or off site within 800 feet subject to securing an AUP and in compliance with Section 23E.28.030.

C. Bicycle parking spaces shall be provided for new construction at the ratio of one space per 2,000 square feet of gross floor area of commercial space, and in accordance with the requirements of Section 23E.28.070.

D. The vehicle parking space requirements of this Section may be reduced or waived through payment of an in-lieu fee to be used to provide enhanced transit services, subject to securing a Use Permit subject to the finding in section 23E.68.090.H or modified with an AUP subject to the findings in 23E.28.140.

E. New construction that results in an on-site total of more than 25 publicly available parking spaces shall install dynamic signage to Transportation Division specifications, including, but not limited to, real-time garage occupancy signs at the entries and exits to the parking facility with vehicle detection capabilities and enabled

for future connection to the regional 511 Travel Information System or equivalent, as determined by the Zoning Officer in consultation with the Transportation Division Manager.

F. Occupants of residential units or GLA units constructed, newly constructed or converted from a non-residential use shall not be eligible for Residential Parking Permit (RPP) permits under Chapter 14.72 of the BMC.

G. For any new building with residential units or structures converted to a residential use, ~~required~~ provided parking spaces shall be leased or sold separate from the rental or purchase of dwelling units for the life of the dwelling unit, unless the Board grants a Use Permit to waive this requirement for projects which include financing for affordable housing subject to the finding in section 23E.68.090.I.

H. For new structures or additions over 20,000 square feet, the property owner shall provide at least one of the following transportation benefits at no cost to every employee, residential unit, and/or GLA resident. A notice describing these transportation benefits shall be posted in a location or locations visible to employees and residents.

1. A pass for unlimited local bus transit service; or

2. A functionally equivalent transit benefit in an amount at least equal to the price of a non-discounted unlimited monthly local bus pass. Any benefit proposed as a functionally equivalent transportation benefit shall be approved by the Zoning Officer in consultation with the Transportation Division Manager.

I. For residential ~~structures constructed or converted from a non-residential use that require~~ projects that provide vehicle parking ~~under Section 23E.68.080.B, required parking spaces shall be designated as~~ vehicle sharing spaces shall be provided in the amounts specified in the following table. ~~If no parking spaces are provided pursuant to Section 23E.68.080.D, no vehicle sharing spaces shall be required~~.

Number of Parking Spaces ~~Required~~Provided	Minimum Number of Vehicle Sharing Spaces
0 – 10	0
11 – 30	1
30 – 60	2
61 or more	3, plus one for every additional 60 spaces

1. The required vehicle sharing spaces shall be offered to vehicle sharing service providers at no cost.

2. The vehicle sharing spaces required by this Section shall remain available to a vehicle sharing service provider as long as providers request the spaces. If no vehicle sharing service provider requests a space, the space may be leased for use by other vehicles. When a vehicle sharing service provider requests such space, the property owner shall make the space available within 90 days.

J. For residential structures constructed or converted from a non-residential use subject to Sections 23E.68.080.G, 23E.68.080.H, and 23E.68.080.I, prior to issuance of a Certificate of Occupancy, the property owner shall submit to the Department of Transportation a completed Parking and Transportation Demand Management (PTDM) compliance report on a form acceptable to the City, which demonstrates that the project is in compliance with the applicable requirements of 23E.68.080.G, 23E.68.080.H, and 23E.68.080.I. Thereafter, the property owner shall submit to the Department of Transportation an updated PTDM compliance report on an annual basis.

K. Any construction which results in the creation of more than 10,000 square feet of new or additional commercial gross floor space shall satisfy the loading space requirements of Chapter 23E.32. (Ord. 7475-NS § 2, 2016: Ord. 7229-NS § 1 (part), 2012)

23.80: MU-LI Mixed Use Residential Provisions

23E.80.080 Off-Street Parking and Loading Requirements

A. For each of the following uses the minimum number of off-street parking spaces shall be provided and in accordance with Chapter 23E.28 except as set forth in Section 23E.80.080.E. Construction of new floor area and changes of use of existing floor area shall satisfy the parking requirements of this section.

Table 23E.80.080	
Parking Required*	
Use	Number of spaces
Art/Craft Studio	One per 1,000 sq. ft. of floor area
Laboratories	One per 650 sq. ft. of floor area
Live/Work Units	~~One per unit; provided however, that i~~If any non-resident employees and/or customers and clients are permitted in any work area, there shall be one additional parking space for each 1,000 sq. ft. of such work area
Manufacturing uses (assembly, production, storage and testing space only), Storage, Warehousing and Wholesale Trade	One space per 1,000 sq. ft. of floor area for spaces of less than 10,000 sq. ft.; one space per 1,500 sq. ft. of floor area for spaces of 10,000 sq ft or more
Quick or Full Service Restaurants	One per 300 sq. ft. of floor area
All other non-residential uses, unless otherwise specified in Subsection B	Two per 1,000 sq. ft. of floor area
* See Subsection E for substitutions of up to 10% with bicycle/motorcycle parking	

B. Unless otherwise specified in Subsection A, uses designated in this chapter as Other Industrial Uses; Automobile and Other Vehicle Oriented Uses; Outdoor Uses; Residential and Related Uses or as Miscellaneous Uses shall be required to provide the number of off-street parking spaces determined by the Zoning Officer or Board based of the amount of off-street parking demand generated by the particular use and comparable with specified standards for other uses.

C. Bicycle parking spaces shall be provided for new construction at the ratio of one space per 2,000 square feet of gross floor area of non-residential space, in accordance with Section 23E.28.070.

D. Off-street parking required by this section may be satisfied by the provision of leased spaces, provided that the requirements of Section 23E.28.030 are met; however, the leased parking spaces may be within 500 feet of the property it serves, provided that leased parking at a distance greater than 500 feet may be approved by an Administrative Use Permit.

E. Subject to the finding in Section 23E.80.090.H, an Administrative Use Permit may be issued to designate up to 10% of automobile parking required for a use for bicycle and/or motorcycle parking, unless a Use Permit from the Board is required to approve any part of the application, in which case the Use Permit shall be approved by the Board. Any bicycle parking created by this designation shall be in addition to otherwise required bicycle parking.

F. Notwithstanding the requirements of Section 23E.28.080 (the general regulations concerning screening and landscaping of off-street parking), there shall be no requirement for screening or landscaping of that portion of any parking lot which is adjacent to Third Street (Southern Pacific Railroad).

G. In buildings with one or more manufacturing, wholesale trade or warehouse use, all uses shall satisfy the loading space requirements of Chapter 23E.32. All uses which have one or more loading spaces shall retain at least one such space.

H. Any construction which results in the creation of 10,000square feet of new or additional commercial or manufacturing gross floor area shall satisfy Chapter 23E.32. (Ord. 6856-NS § 23 (part), 2005: Ord. 6478-NS § 4 (part), 1999)

23.84: MU-R Mixed Use Residential Provisions

23E.84.080 Off-Street Parking and Loading Requirements

A. Unless otherwise specified in Subsections B or F, or in Table 23E.84.080, the district minimum standard parking requirement is two spaces per 1,000 square feet of gross floor area of non-residential space, in accordance with the requirements of Chapter 23E.28.

Table 23E.84.080

Parking Required*	
Use	Number of spaces
Art/Craft Studio	One per 1,000 sq. ft. of floor area
Community Care Facilities	One per two non-resident employees
Dwelling Units	~~One per unit, except as provided in Section 23E.84.080.E; 75% less for Seniors (see Subsection E)~~None required
Libraries	One per 500 sq. ft. of floor area that is publicly accessible
Live/Work Units	~~One per unit; provided however, that i~~If any non-resident employees and/or clients are permitted in any work area there shall be one parking space for the first 1,000 sq. ft. of work area and one additional parking space for each additional 750 sq. ft. of work area.
Manufacturing Uses (assembly, production, storage and testing space only)	One per 1,000 sq. ft. of floor area
Medical Practitioner Offices	One per 300 sq. ft. of floor area
Nursing Homes	~~One per each five residents; plus o~~One per each three employees
Restaurants and Food Service	One per 300 sq. ft. of floor area

Table 23E.84.080	
Parking Required*	
Use	Number of spaces
Storage, Warehousing and Wholesale Trade	One per 1,000 sq. ft. of floor area for spaces of less than 10,000 sq.ft.; one per 1,500 sq. ft. for spaces of 10,000 sq. ft. or more
*See Subsection H for substitutions of up to 10% with bicycle/motorcycle parking	

B. Unless otherwise specified in Subsection H or in Table 23E.84.080, uses designated in this chapter as Automobile and Other Vehicle Oriented Uses; Outdoor Uses; or as Miscellaneous Uses shall be required to provide the number of off-street parking spaces determined by the Zoning Officer or Board based on the amount of parking demand generated by the particular use and comparable with specified standards for other uses.

C. Bicycle parking spaces shall be provided at the ratio of one space per 2,000 square feet of gross floor area of non-residential space, and in accordance with the requirements of Section 23E.28.070.

D. Off-street parking required by this section may be satisfied by the provision of leased spaces, provided that the requirements of Section 23E.28.030 are met; however, the leased parking spaces may be within 500 feet of the property it serves, provided that leased parking at a distance greater than 500 feet may be approved by an Administrative Use Permit.

~~E. For multiple dwellings where the occupancy will be exclusively for persons over the age of 62, the number of required off-street parking spaces may be reduced to 25% of what would otherwise be required for multiple family dwelling use, subject to obtaining a Use Permit.~~

E~~F~~. If the Zoning Officer or Board finds that existing evening parking supply is adequate and/or that other mitigating circumstances exist on the property, the requirement for an additional off-street parking space may be waived through a Use Permit when an additional residential unit is added to a property with one or more residential units.

F~~G~~. No off-street parking space which is required by this Ordinance, including Use Permits issued under this Ordinance, shall be removed; provided, however, any off-street parking spaces which are provided in excess of the number required at the time of application may be removed.

GH. Subject to the finding in Section 23E.84.090.J, an Administrative Use Permit may be issued to designate up to 10% of automobile parking required for a use for bicycle and/or motorcycle parking, unless a Use Permit from the Board is required to approve any part of the application, in which case the Use Permit shall be approved by the Board. Any bicycle parking created by this designation shall be in addition to otherwise required bicycle parking.

HI. In buildings with manufacturing, wholesale trade or warehouse uses, loading spaces shall be maintained so as to meet the requirements of Chapter 23E.32.

IJ. Any construction which results in the creation of 10,000 square feet of new or additional commercial or manufacturing gross floor area shall satisfy Chapter 23E.32. (Ord. 6856-NS § 24 (part), 2005: Ord. 6478-NS § 4 (part), 1999)

Attachment 5: Sub-Title 23D

[PROVISIONS APPLICABLE IN ALL RESIDENTIAL DISTRICTS]

Chapter 23D.16: R-1 Single Family Residential District Provisions

23D.16.080 Parking -- Number of Spaces

A. A lot shall contain the following minimum number of Off-street Parking Spaces:

Table 23D.16.080

Parking Required	
Use	**Number of spaces**
Dwellings	~~One per unit~~None required
~~Employees~~Community care facility	One per two non-resident employees ~~for a Community Care Facility~~*
Libraries	One per 500 sq. ft. of floor area that is publicly accessible
Rental of Rooms	~~One per each two roomers or boarders~~None required
*This requirement does not apply to those Community Care Facilities which under state law must be treated in the same manner as a single family residence	

B. Other Uses requiring Use Permits, including, but not limited to, Child Care Centers, Clubs, Lodges, and community centers, shall provide the number of Off-street Parking Spaces determined by the Board, based on the amount of traffic generated by the particular Use and comparable with specified standards for other Uses.

C. Schools having a total gross floor area exceeding 10,000 square feet, shall provide off-street loading spaces at the rates of:

1. One space for the first 10,000 square feet of gross floor area; and

2. One additional space for each additional 40,000 square feet of gross floor area. (Ord. 7599-NS § 5, 2018; Ord. 7426-NS § 7, 2015; Ord. 6854-NS § 4 (part), 2005: Ord. 6763-NS § 6 (part), 2003: Ord. 6478-NS § 4 (part), 1999)

Chapter 23D.20: R-1A Limited Two-Family Residential District Provisions

23D.20.080 Parking -- Number of Spaces

A. A lot shall contain the following minimum number of Off-street Parking Spaces:

Table 23D.16.080	
Parking Required	
Use	**Number of spaces**
Dwellings	~~One per unit~~None required
~~Employees~~Community care facility	One per two non-resident employees ~~for a Community Care Facility~~*
Libraries	One per 500 sq. ft. of floor area that is publicly accessible
Rental of Rooms	~~One per each two roomers or boarders~~None required
*This requirement does not apply to those Community Care Facilities which under state law must be treated in the same manner as a single family residence	

B. Other Uses requiring Use Permits, including, but not limited to, Child Care Centers, Clubs, Lodges, and community centers, shall provide the number of Off-street Parking Spaces determined by the Board, based on the amount of traffic generated by the particular Use and comparable with specified standards for other Uses.

C. Schools having a total gross floor area exceeding 10,000 square feet, shall provide off-street loading spaces at the rates of:

1. One space for the first 10,000 square feet of gross floor area; and

2. One additional space for each additional 40,000 square feet of gross floor area. (Ord. 7599-NS § 5, 2018; Ord. 7426-NS § 7, 2015; Ord. 6854-NS § 4 (part), 2005: Ord. 6763-NS § 6 (part), 2003: Ord. 6478-NS § 4 (part), 1999)

Chapter 23D.24: ES-R Environmental Safety-Residential District Provisions

23D.24.080 Parking -- Number of Spaces

A. A lot shall contain, for each of the following Uses, the following minimum number of Off-street Parking Spaces:

Table 23D.24.080

Parking Required	
Use	Number of spaces
Dwellings, no room rental	~~One per 1,000 sq. ft. of gross floor area or one per bedroom, whichever is greater, with a minimum of two spaces to a maximum of four spaces*~~None required
~~Employees~~Community care facilities	One per two non-resident employees ~~for a Community Care Facility*~~*
Rental of Rooms	~~One per each roomer or boarder in addition to the above requirement for dwellings~~None required

~~*For purposes of calculating required parking, "bedroom" means any habitable space in a dwelling unit or residential accessory structure other than a kitchen or living room that is intended for or capable of being used for sleeping and that is at least 70 square feet in area. A room identified as a den, library, study, loft, dining room, or other extra room that satisfies this definition will be considered a bedroom for the purposes of computing parking requirements. Bathrooms, toilet rooms, closets, halls, storage or utility spaces and similar areas are not considered habitable spaces. The division of existing habitable space shall not require the provision of additional parking so long as there is no net increase in the gross floor area of the building and no more than one additional bedroom is created.~~

~~*~~*This requirement does not apply to those Community Care Facilities which under state law must be treated in the same manner as a single-family residence.

~~B. Any use that was lawfully established prior to the effective date of the ordinance codified in this chapter but does not conform to the requirements of this section may be continued and maintained, provided there is no increase in the area, space, or volume occupied by or devoted to such use. The lawfully established gross floor area of a single-family detached structure that does not conform to the parking requirements in subsection A may, however, be increased by a cumulative total of no more than 200 square feet over the floor area that existed on the effective date of the ordinance codified in this chapter if the addition or alteration complies with all other applicable standards and will not be used as a bedroom and if no portion of the building or any other~~

~~structure on the same lot is used for rental rooms. (Ord. 7135-NS § 2 (part), 2010: Ord. 6478-NS § 4 (part), 1999)~~

Chapter 23D.28: R-2 Restricted Two-Family Residential District Provisions

23D.28.080 Parking -- Number of Spaces

A lot shall contain the following minimum number of Off-street Parking Spaces:

Table 23D.28.080	
Parking Required	
Use	Number of spaces
Dwellings	~~One per unit~~None required
~~Employees~~Community Care Facility	One per two non-resident employees ~~for a Community Care Facility~~*
Libraries	One per 500 sq. ft. of floor area that is publicly accessible
Rental of Rooms	~~One per each two roomers or boarders~~None required
*This requirement does not apply to those Community Care Facilities which under state law must be treated in the same manner as a single family residence.	

1. Other Uses requiring Use Permits, including, but not limited to, Child Care Centers, Clubs, Lodges, and community centers, shall provide the number of Off-street Parking Spaces as determined by the Board, based on the amount of traffic generated by the particular Use and comparable with specified standards for other uses.

2. Schools, when having a total gross floor area exceeding 10,000 square feet, shall satisfy the following off-street loading requirements:

a. Off-street loading spaces at the ratio of one space for the first 10,000 square feet of gross floor area.

b. Off-street loading spaces at the ratio of one space for each additional 40,000 square feet of gross floor area of above the first 10,000 square feet. (Ord. 7599-NS § 9, 2018: Ord. 7426-NS § 15, 2015; Ord. 6763-NS § 15 (part), 2003: Ord. 6478-NS § 4 (part), 1999)

Chapter 23D.32: R-2A Restricted Multiple-Family Residential District Provisions

23D.32.080 Parking -- Number of Spaces

A. A lot shall contain, for each of the following uses, the following minimum number of Off-street Parking Spaces:

Table 23D.32.080	
Parking Required	
Use	Number of spaces
Dwellings~~, Multiple Dwellings, one and two family~~	~~One per unit (75% less for seniors, see below)~~ ~~One per unit~~None required
~~Employees~~Community Care Facility	One per two non-resident employees ~~for a Community Care Facility~~*
Libraries	One per 500 sq. ft. of floor area that is publicly accessible
Nursing Homes	One ~~per each five residents, plus one~~ per each three employees
Rental of Rooms	~~One per each two roomers or boarders~~ ~~One per each five residents plus one for manager~~None required
Senior Congregate Housing	
*This requirement does not apply to those Community Care Facilities which under state law must be treated in the same manner as a single family residence	

B. Other uses requiring Use Permits issued by the Board, including, but not limited to, Child Care Centers, Clubs, Lodges and community centers, shall provide the number of Off-street Parking Spaces as determined by the Board based on the amount of traffic generated by the particular Use and comparable with specified standards for other Uses.

~~C. For multiple dwellings where the occupancy will be exclusively for persons over the age of 62, the number of required Off-street Parking Spaces may be reduced to 25% of what would otherwise be required for multiple-family dwelling use, subject to obtaining a Use Permit.~~

~~D~~C. Senior Congregate Housing, Nursing Homes and Schools, when having a total gross floor area exceeding 10,000 square feet, shall satisfy the following requirements:

1. Off-street loading spaces at the ratio of one space for the first 10,000 square feet of gross floor area;

2. Off-street loading spaces at the ratio of one space for each additional 40,000 square feet of gross floor area of above the first 10,000 square feet. (Ord. 7599-NS § 11, 2018; Ord. 7426-NS § 19, 2015; Ord. 6763-NS § 19 (part), 2003: Ord. 6478-NS § 4 (part), 1999)

Chapter 23D.36: R-3 Multiple Family Residential District Provisions

23D.36.080 Parking -- Number of Spaces

A. A lot shall contain the following minimum number of Off-street Parking Spaces:

Table 23D.36.080

Parking Required	
Use	Number of spaces
Dormitories; Fraternity and Sorority Houses; Rooming and Boarding Houses; and Senior Congregate Housing	None required
Dwellings~~, Multiple (fewer than ten)~~ ~~Dwellings, Multiple (Ten or more)~~ ~~Dwellings, One and Two Family~~	~~One per each five residents, plus one for manager~~ None required ~~One per unit (75% less for seniors, see below)~~ ~~One per 1,000 sq. ft. of gross floor area (75% less for seniors, see below)~~ ~~One per unit~~
Employees	One per two non-resident employees for a Community Care Facility*
Hospitals	One per each four beds, plus one per each three employees
Libraries	One per 500 sq. ft. of floor area that is publicly accessible
Nursing Homes	~~One per each five residents, plus o~~One per each three employees
*This requirement does not apply to those Community Care Facilities which under state law must be treated in the same manner as a single family residence.	

B. Other uses requiring Use Permits, including, but not limited to, Child Care Centers, Clubs, Lodges, and community centers, shall provide the number of Off-street Parking Spaces determined by the Board based on the amount of traffic generated by the particular use and comparable with specified standards for other uses.

~~C. For multiple dwellings where the occupancy will be exclusively for persons over the age of 62, the number of required Off-street Parking Spaces may be reduced to 25% of what would otherwise be required for multiple family dwelling use, subject to obtaining a Use Permit.~~

~~D~~C. Senior Congregate Housing, Hospitals, Nursing Homes, and Schools, when having a total gross floor area exceeding 10,000 square feet, shall satisfy the requirements of Chapter 23E.32 and the following requirements:

1. Off-street loading spaces at the ratio of one space for the first 10,000 square feet of gross floor area.

2. Off-street loading spaces at the ratio of one space for each additional 40,000 square feet of gross floor area above the first 10,000 square feet. (Ord. 7599-NS § 13, 2018; Ord. 7426-NS § 23, 2015; Ord. 7210-NS § 12, 2011: Ord. 6763-NS § 23 (part), 2003: Ord. 6478-NS § 4 (part), 1999)

Chapter 23D.40: R-4 Multi-Family Residential District Provisions

23D.40.080 Parking -- Number of Spaces

A. A lot shall contain the following minimum number of Off-street Parking Spaces:

Table 23D.40.080	
Parking Required	
Use	Number of spaces
Dormitories; Fraternity and Sorority Houses; Rooming and Boarding Houses; and Senior Congregate Housing	None required
Dwellings~~, Multiple (fewer than ten) Dwellings, Multiple (Ten or more) Dwellings, One and Two Family~~	~~One per each five residents, plus one for manager~~ ~~One per unit (75% less for seniors, see Section C below)~~ ~~One per 1,000 sq. ft. of gross floor area (75% less for seniors, see Section C below)~~ ~~One per unit~~None required
~~Employees~~Community Care Facility	One per two non-resident employees ~~for a Community Care Facility~~*
Hospitals	One per each four beds, plus one per each three employees
Hotels	One per each three guest rooms, plus one per each three employees
Libraries	One per 500 sq. ft. of floor area that is publicly accessible
Nursing Homes	~~One per each five residents, plus o~~One per each three employees
Offices, Medical	One per 300 sq. ft. of gross floor area
Offices, Other	One per 400 sq. ft. of gross floor area; (may be reduced, see Section D below)
*This requirement does not apply to those Community Care Facilities which under state law must be treated in the same manner as a single family residence.	

B. Other uses requiring Use Permits, including, but not limited to, Child Care Centers, Clubs, Lodges and community centers, shall provide the number of Off-street Parking Spaces determined by the Board based on the amount of traffic generated by the particular use and comparable with specified standards for other uses.

~~C. For multiple dwellings where the occupancy will be exclusively for persons over the age of 62, the number of required Off-street Parking Spaces may be reduced to 25% of what would otherwise be required for multiple family dwelling use, subject to obtaining a Use Permit.~~

~~D~~C. For offices, other than medical offices, the Board may reduce the parking requirement from one Off-street Parking Space per 400 square feet of gross floor area to a minimum of one parking space per 800 square feet of gross floor area, subject to making the required finding under Section 23D.40.090.C. In addition, any parking supplied jointly with multiple family residential uses shall be subject to the requirements set forth in Section 23D.12.060.B.

~~E~~D. Senior Congregate Housing, Hotels, Hospitals, Nursing Homes, Offices (including Medical Offices) and Schools, when having a total gross floor area exceeding 10,000 square feet, shall satisfy the requirements of Chapter 23E.32 and the following requirements:

1. Off-street loading spaces at the ratio of one space for the first 10,000 square feet of gross floor area.

2. Off-street loading spaces at the ratio of one space for each additional 40,000 square feet of gross floor area of above the 10,000 square feet. (Ord. 7599-NS § 15, 2018; Ord. 7426-NS § 27, 2015; Ord. 6763-NS § 27 (part), 2003: Ord. 6478-NS § 4 (part), 1999)

Chapter 23D.44: R-5 High Density Residential District Provisions

23D.44.080 Parking -- Number of Spaces

A. A lot shall contain the following minimum number of Off-street Parking Spaces:

Table 23D.44.080	
Parking Required	
Use	Number of spaces
Dormitories, Fraternity and Sorority Houses, Rooming and Boarding Houses, Senior Congregate Housing	None required
~~Dormitories, Fraternity and Sorority Houses, Rooming and Boarding Houses, Senior Congregate Housing~~	~~One per each five residents, plus one for manager~~
Dwellings~~,~~	~~One per unit (75% less for seniors, see Section C below)~~ ~~One per 1,200 sq ft of gross floor area (75% less for seniors, see Section C below)~~ ~~One per unit~~ None required
Employees	One per two non-resident employees for a Community Care Facility*
Hospitals	One per each four beds, plus one per each three employees
Hotels	One per each three guest rooms, plus one per each three employees
Libraries	One per 500 sq ft of floor area that is publicly accessible
Nursing Homes	~~One per each five residents, plus o~~One per each three employees
Offices, Medical	One per 300 sq ft of gross floor area
Offices, Other	One per 400 sq ft of gross floor area (may be reduced, see Section D below)

Table 23D.44.080
Parking Required
*This requirement does not apply to those Community Care Facilities which under state law must be treated in the same manner as a single family residence

B. Other uses requiring Use Permits, including, but not limited to, Child Care Centers, Clubs, Lodges and community centers, shall provide the number of Off-street Parking Spaces as determined by the Board based on the amount of traffic generated by the particular use and comparable with specified standards for other uses.

~~C. For multiple dwellings where the occupancy will be exclusively for persons over the age of 62 years, the number of required Off-street Parking Spaces may be reduced to 25% of what would otherwise be required for multiple family dwelling use, subject to obtaining a Use Permit.~~

~~D~~C. For offices, other than medical offices, the Board may reduce the parking requirement from one Off-street Parking Space per 400 square feet of gross floor area to a minimum of one parking space per 800 square feet of gross floor area, subject to making the required finding under Section 23D.44.090.C. In addition any parking supplied jointly with multiple family residential uses shall be subject to the requirements set forth in Section 23D.12.060.B.

~~E~~D. Senior Congregate Housing, Hotels, Hospitals, Nursing Homes, Offices (including Medical Offices) and Schools, when having a total gross floor area exceeding 10,000 square feet, shall satisfy the requirements of Chapter 23E.32 and the following requirements:

1. Off-street loading spaces at the ratio of one space for the first 10,000 square feet of gross floor area.

2. Off-street loading spaces at the ratio of one space for each additional 40,000 square feet of gross floor area of above the first 10,000 square feet. (Ord. 7599-NS § 17, 2018; Ord. 7426-NS § 31, 2015; Ord. 6763-NS § 31 (part), 2003: Ord. 6478-NS § 4 (part), 1999)

Chapter 23D.48: R-S Residential Southside District Provisions

23D.48.080 Parking -- Number of Spaces

A. All parking shall be provided in accordance with the requirements of this section and Chapter 23D.12, except as set forth in this Section.

B. The following provisions shall apply to properties within the R-S District:

1. No Off-street Parking Spaces shall be required for new Dwelling Units, Group Living Accommodations rooms, or for Accessory Dwelling Units. ~~located within the Car-Free Housing Overlay. The Car-Free Housing Overlay area is as follows:~~

~~The complete block bounded by:~~

~~• Dana, Haste, Ellsworth and Channing.~~

~~The partial blocks bounded by:~~

~~• Bowditch, Haste, Telegraph and Channing, minus the portion of the block within 150 feet of Telegraph Avenue;~~

~~• Dana, Channing, Ellsworth and Durant, minus the lot abutting the west side of Dana; and~~

~~• Ellsworth, Channing, Fulton and Durant, minus the north-west corner with 130 feet of frontage along Fulton and 100 feet of frontage along Durant.~~

~~Additional properties as described below:~~

~~• The properties abutting the east side of College Avenue between Bancroft Way and Channing Way, and including 2709 Channing Way;~~

~~• The properties abutting both sides of Channing between Fulton and Shattuck, except those abutting Shattuck, and also excluding the parcel at 2111 - 2113 Channing;~~

~~• The properties abutting the west side of Fulton Street from Channing Way extending north along Fulton 127.5 feet and extending south along Fulton 180 feet; and~~

~~• The properties abutting the north side of Haste, beginning 150 feet west of Fulton Street, and extending an additional 200 feet west along Haste.~~

~~2. For properties not included in the Car-Free Housing Overlay, and for non-residential uses within the Car-Free Housing Overlay, Off-Street parking requirements shall be determined by the parking requirements of Section 23D.40.080 (R-4).~~

~~3~~2. Bicycle parking spaces shall be provided at the ratio of one space per 2,000 square feet of gross floor area of commercial space, and in accordance with the requirements of Section 23E.28.070.

C. Occupants of Dwelling Units and Group Living Accommodation rooms constructed without parking after the effective date of this Chapter shall not be entitled to receive parking permits under the Residential Permit Parking Program (RPP), under Section 14.72 of the BMC.~~Occupants of residential projects within the Car-Free Housing Overlay area that are constructed without parking after the effective date of this Chapter shall not be entitled to receive parking permits under the Residential Permit Parking Program (RPP), under Chapter 14.72 of the BMC.~~

D. Existing parking spaces for Main Buildings may be reduced if approved through a Use Permit with findings that the parking reduction is consistent with the purposes of the District and meets the findings in Section 23E.28.140.

E. Any construction which results in the creation of 10,000 square feet of new or additional non-residential gross floor space shall satisfy the loading space requirements of Chapter 23E.32 as follows:

1. Off-street loading spaces at the ratio of one space for the first 10,000 square feet of gross floor area of non-residential space; and

2. Off-street loading spaces at the ratio of one space for each additional 40,000 square feet of gross floor area of non-residential space above the first 10,000 square feet.

F. All Use Permits under this Chapter shall be subject to a condition of approval requiring payment of a Transportation Services Fee (TSF) if and when adopted. (Ord. 7208-NS § 1 (part), 2011)

Chapter 23D.52: Residential Southside Mixed-Use District Provisions

23D.52.080 Parking -- Number of Spaces

A. All parking shall be provided in accordance with the requirements of Chapter 23D.12 and this Section.

1. No Off-Street Parking Spaces shall be required for new Dwelling Units or Group Living Accommodation rooms, or for Accessory Dwelling Units.

2. For non-residential uses and for Main Buildings with no Dwelling Units or Group Living Accommodations, Off-Street Parking Spaces shall be provided in accordance with the following requirements:

a. The minimum standard parking requirement for commercial floor area is two spaces per 1,000 square feet of gross floor area of commercial space. Uses listed in Table 23D.52.080 shall meet the requirements listed or the district minimum, whichever is more restrictive, for newly constructed floor area or changes of use.

Table 23D.52.080

Parking Required	
Use	Number of spaces
Dwellings	None required
Hotels	One per each three guest/sleeping rooms or suites plus one per each three employees
Libraries	One per 500 sq. ft. of floor area that is publicly accessible
Medical Practitioner Offices	One per 300 sq. ft. of gross floor area
Quick or Full Service Restaurants	One per 300 sq. ft. of gross floor area
Nursing Homes	One per each three employees.~~Refer to R-3 Standards, Section 23D.36.080~~

b. Parking requirements for changes in use of existing floor area where the new use has a higher parking standard than the existing use may be modified as set forth in Section 23E.28.130.

c. Other uses requiring Use Permits, including but not limited to, Child Care Centers, Clubs, Lodges and Community Centers, shall provide the number of Off-Street Parking Spaces determined by the Board based on the amount of traffic generated by the particular use and comparable with specific standards for other uses.

3. For non-residential uses in Main Buildings that include Dwelling Units or Group Living Accommodations, parking requirements may be waived if approved through an Administrative Use Permit with a finding that the parking reduction is consistent with the purposes of the District.

4. Existing parking spaces for Main Buildings may be reduced if approved through a Use Permit with findings that the parking reduction is consistent with the purposes of the District and meets the findings in Section 23E.28.140.

5. Bicycle parking spaces shall be provided at the ratio of one space per 2,000 square feet of gross floor area of new commercial space, and in accordance with the requirements of Section 23E.28.070.

B. Occupants of Dwelling Units and Group Living Accommodation rooms constructed without parking after the effective date of this Chapter shall not be entitled to receive parking permits under the Residential Permit Parking Program (RPP), under Section 14.72 of the BMC.

C. Any new construction which results in the creation of 10,000 square feet of new or additional non-residential floor space shall satisfy the loading space requirements of Chapter 23E.32 as follows:

1. Off-street loading spaces at the ratio of one space for the first 10,000 square feet of gross floor area of non-residential space; and

2. Off-street loading spaces at the ratio of one space for each additional 40,000 square feet of gross floor area of non-residential space above the first 10,000 square feet.

D. All Use Permits under this Chapter shall be subject to a condition of approval requiring payment of a Transportation Services Fee (TSF) if and when adopted. (Ord. 7209-NS § 1 (part), 2011)

Planning and Development Department
Land Use Planning Division

STAFF REPORT

DATE: January 15, 2020

TO: Members of the Planning Commission

FROM: Justin Horner, Associate Planner

SUBJECT: Parking Maximums

RECOMMENDATION

Review report and provide feedback on staff's recommendation to not include parking maximums as part of the public hearing on parking minimums and Transportation Demand Management (TDM) to be held at your meeting of February 5, 2020.

BACKGROUND

In response to the City Council's Green Affordable Housing Package and the City-wide Green Development Requirements referrals, the Planning Commission discussed potential parking reform at their meetings of July 17, 2019, October 2, 2019 and December 4, 2019.

At their meeting of December 4, 2019, the Planning Commission directed staff to conduct a public hearing at the February 5, 2020 Planning Commission meeting to consider amendments to the Zoning Ordinance to eliminate minimum parking requirements for all residential development in all zones, and to require, with some exceptions, certain TDM measures for all residential projects, or residential portions of mixed-use projects, that include 10 or more units.

The Planning Commission also directed staff to return to the Planning Commission with additional information about implementing parking maximums for residential development in Berkeley. It is requested that the Planning Commission receive this report about parking maximums, and provide comments and feedback on staff's recommendation to not include parking maximums as part of the Zoning Ordinance amendments to be presented at a public hearing at the February 5, 2020 Planning Commission meeting.

Review of Existing Parking Maximums

Staff research revealed that land use regulations instituting parking maximums for residential development are very rare. Staff surveyed 13 jurisdictions that have recently reformed their parking regulations to reduce or eliminate parking minimums, ten of which were the only

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jurisdictions staff found that have also instituted parking maximums. As an additional reference point, staff added Transform's GreenTRIP Certification program. The regulations are summarized in Table 1, below.

Table 1. Residential Parking Minimums and Maximums: Summary

City	Minimum	Maximum	Notes
Burlington, MA	1.5/unit	1.5/unit	Maximum applies to buildings with 3 or more units only
Charlotte, NC	1/unit	1.6/unit	
Flagstaff, AZ	1.25 – 2.5/unit, depending on bedrooms	No more than 105% of minimum	Maximum applies to buildings with 25 or more units only.
Knoxville, TN	1 – 2/unit, depending on bedrooms	1.25 – 2.5/unit, depending on bedrooms	Maximum only applies to buildings with 3 or more units. Guest parking is also required
Minneapolis, MN	--	1.5 – 2/unit	No minimums and maximums only apply to downtown zoning districts. (elsewhere, 1/unit + no maximum)
Pasadena, CA	1.5/unit	2/unit	Maximum only applies to Sierra Madre Villa Station TOD Area
Pasadena, CA	1.5/unit	1.75/unit	Maximum only applies to TOD Areas and Central District
Pittsburgh, PA	1/unit	2/unit	Maximum only applies to 1,000 acre Uptown EcoInnovation District
Portland, OR	0 – 0.33/unit, depending on project size	--	Minimums only for sites 1500 ft or less from a transit station or 500 ft or less from a transit street with 20 min headways. Parking maximums do apply to most non-residential uses.
San Diego, CA	0 – 2/unit, depending on bedrooms	--	No parking minimums only for buildings of 3 or more units in Parking Transit Priority Areas Parking maximums do apply to most non-residential uses
San Francisco, CA	--	0.5 - 1.5/unit	Maximum depends on zoning district. Maximum is 1.5/unit in most cases
Seattle, WA	--	--	No minimums only for residential uses in urban center, certain overlay districts, or in commercial zones. No required parking for any affordable unit at 80% AMI or below
Vancouver, Canada	75% of base zone standard (1/unit, generally)	125% of base zone standard	Minimums and maximums apply in Transit Overlay District only (urban centers and transit nodes)

London, United Kingdom	--	0.25 – 1.5 spaces/unit	Maximum based on which Public Transit Accessibility Level (PTAL) areas subject parcel is located
GreenTRIP Certification	--	1/unit	

Of the ten jurisdictions that have instituted parking maximums, seven apply them only to specific zoning districts or areas with transit access. This trend across cities is consistent with the Planning Commission's request at their December 4, 2019 meeting to consider parking maximums that may vary depending upon project location.

Staff accompanied this review of existing regulations with a review of the few treatments of parking maximums in the scholarly literature and correspondence with staff at the San Francisco Planning Department and the Pittsburgh Department of City Planning. Through this investigation, staff concluded that there is not a widely accepted quantitative methodology for setting parking maximums for residential development. In most cases, parking maximums are set somewhere between a range of 1.5 to 2 spaces per unit, seemingly most often through political deliberation and a review of recent development trends in each jurisdiction. Again, as shown in Table 1, parking maximums mostly apply only within particular zoning districts characterized by density, distance from an urban center and/or transit accessibility.

Discussion: Setting a Parking Maximum

The two primary questions the Planning Commission is asked to address if it chooses to institute parking maximums for residential development are 1) where should parking maximums apply; and 2) what should the upper limit of the maximum be?

Where to Apply Parking Maximums
In its report for the December 4, 2019 meeting, staff did not recommend parking maximums for certain areas of the city; rather, parking maximums were to apply to projects of a certain size (ten or more units). Given Berkeley's current zoning, parking maximums would apply only to certain areas of the city (Zoning Districts R-3 and above).

However, given the Planning Commission's direction at its December 4, 2019 meeting to eliminate parking minimums for all residential projects citywide, the Commission may also be interested in apply parking maximums on a wider geographic scale. In addition to the option of applying parking maximums to certain *types* of projects, there are two recommendations Planning Commission could also consider:

- Citywide Parking Maximums: The Planning Commission could recommend a uniform parking maximum and apply it to all residential projects throughout the city;

- Parking Maximums in Transit-Rich Areas: Consistent with the approach of most jurisdictions that institute parking maximums, the Planning Commission could choose to impose parking maximums in areas close to transit. At their meeting of May 1, 2019, the Planning Commission received a report from staff that included maps that indicate Berkeley's most transit-proximate areas (*Attachment 1*).

Setting the Parking Maximum
In its report for the December 4, 2019 meeting, staff recommended two potential approaches to setting parking maximums:

- A parking maximum could be set 0.5 spaces per unit, consistent with the October 2019 *Residential Parking Utilization Study's* finding about the average number of registered vehicles per unit (*Attachment 2*); or

- A parking maximum could be set at the Zoning Ordinance's current minimum parking requirements, which ends up at around 1 space per unit. This is slightly more than the 0.82 spaces provided per unit among the twenty multi-family projects observed in the *Residential Parking Utilization Study*.

An additional option could be to set the maximum at or near the typical level of parking provision for recently-entitled projects. At their meeting of May 1, 2019, the Planning Commission received a report from staff that included a summary of residential projects entitled in 2018 and the amount of parking required and provided by each of them (Attachment 3). Of the 21 total projects, 86% provided the required number, or fewer, parking spaces (29% provided fewer than required). While most projects did provide the required amount of parking (around 1 space/unit), across all projects, the average number of parking spaces was 0.4 per unit (410 total parking spaces for 1122 units). The Planning Commission could also consider this 0.4 spaces per unit standard.

Referring again to Table 1, adopting any of these three recommendations would set parking maximums that are noticeably lower than most other cities that have instituted them, and higher than only San Francisco among American cities.

Planning Staff Recommendation: Do Not Institute Parking Maximums at this Time

Notwithstanding the above, Planning Department staff does not currently recommend setting parking maximums for residential development. Very few jurisdictions have instituted maximum parking requirements, and the few that have, limit them to specific zoning districts or sub-areas within their respective cities. Parking maximums that have been set by other jurisdictions are at per unit levels well above what is already being constructed in Berkeley, even before the City has moved forward to reduce or remove minimum parking requirements. Given the review of recently approved projects noted above, and the findings of the recent *Residential Parking Utilization Study*, it is not apparent to staff that Berkeley faces a problem with development projects providing too much parking; a problem parking maximums are instituted to solve. And while parking maximums can serve as tools to promote mode shift away from private vehicle travel, the lack of tested methodologies for setting parking maximums for residential projects is problematic. Staff would be speculating as to the likely mode share consequences of residents of buildings subject to parking maximums, without a solid understanding of the effect such maximums could have on project feasibility.

For these reasons, staff recommends that the Planning Commission not recommend instituting parking maximums at this time. Staff instead recommends examining projects that seek

entitlements after reforms to minimum parking requirements are instituted to see if parking maximums would be appropriate in the future.

NEXT STEPS

Planning Commission is asked to provide final policy direction on the following questions and request a public hearing on February 5, 2020 to consider specific Zoning Ordinance amendments for parking reform.

***Question for Planning Commission**: Should a maximum parking standard be implemented for residential development?*

***Question for Planning Commission**: If so, should they be implemented based on project size, project location or a combination? What should be the maximum number of allowable off-street parking spaces?*

ATTACHMENTS:

1. Maps of transit stations and corridors with ¼ mile and ½ mile buffers.
2. Residential parking utilization study
3. List of 2018 entitled projects with amount of parking provided and required.

Chapter 23C.19:
OFF-STREET PARKING MAXIMUMS FOR RESIDENTIAL DEVELOPMENT

Sections:

Section 23C.19.010 Purpose

The purpose of this chapter is to institute off-street parking maximums for residential development in order to achieve:

A. City Transportation Element goals of reducing vehicle trips, encouraging public transit use and promoting bicycle and pedestrian safety,

B. City Climate Action Plan goals of reducing private vehicle travel and promoting mode shift to more sustainable transportation options

C. Housing Element goals for developing housing at all affordability levels by limiting the amount of on-site vehicle parking allowed,

Section 23C.19.020 Applicability of Regulations

A. The provisions of this Chapter shall apply to new Duplexes, Multi-family projects and mixed-use projects that include two or more Dwelling Units located on a parcel, any portion of which is located within 0.25 miles of a major transit stop, as defined by Section 21064.3 of the *California Public Resources Code* or along a transit corridor with service at 15 minute headways during the morning and afternoon peak periods.

Section 23C.19.030 Off-street Parking Maximums

A. Any project subject to this Chapter shall not include off-street residential parking at a rate higher than 0.5 parking spaces per Dwelling Unit.

Section 23C.19.040 Excess Off-street Parking

A. Any request for off-street residential parking in excess of 0.5 parking spaces per Dwelling Unit shall require an Administrative Use Permit.

B. In order to approve any Administrative Use Permit under this Chapter the Zoning Officer or Board shall make one the following Findings:

(i) Trips to the use or uses to be served, and the apparent demand for additional parking, cannot be satisfied by the amount of parking permitted by this Chapter, by transit service which exists or is likely to be provided in the foreseeable future, or by more efficient use of existing on-street and off-street parking available in the area; or

(ii) The anticipated residents of the proposed project have special needs or require reasonable accommodation that relate to disability, health or safety that require the provision of additional off-street residential parking.

Chapter 23C.18: Transportation Demand Management

Sections:

Section 23C.18.010 Purpose

The purpose of this chapter is to establish a Transportation Demand Management program that supports:

A. City Transportation Element goals of reducing vehicle trips, encouraging public transit use and promoting bicycle and pedestrian safety, and

B. City Climate Action Plan goals to reduce private vehicle travel and promote mode shift to more sustainable transportation options.

Section 23C.18.020 Applicability of Regulations

A. The following types of projects must comply with the requirements of this Chapter:

1. Residential housing projects, including the residential portions of mixed-use projects that include ten or more Dwelling Units.

B. The following types of projects shall be exempt from the requirements of this Chapter:

1. Residential housing projects, including the residential portions of mixed-use projects, located in the following locations:

a) C-DMU Downtown Mixed Use District
b) Southside Plan Area

2. Residential housing projects, including the residential portions of mixed-use projects, with the majority of its units subject to recorded affordability restrictions.

Section 23C.18.030 Transportation Demand Management Program Requirements

A. Any project subject to this Chapter shall:

1. Ensure that all parking spaces provided for residents be leased or sold separate from the rental or purchase of dwelling units for the life of the dwelling units, such that potential renters or buyers shall have the option of renting or buying a dwelling unit at a price lower than would be the case if there were a single price for both the dwelling unit and the parking space(s);

2. Provide at least one of the following transit benefits per unit, at no cost to the resident, for a period of ten years after the issuance of a Certificate of Occupancy. A notice describing these transportation benefits shall be posted in a location or locations visible to residents.

    a) A monthly pass for unlimited local bus transit service; or
    b) A functionally equivalent transit benefit in an amount at least equal to the price of a non-discounted unlimited monthly local bus pass. Any benefit proposed as a functionally equivalent transportation benefit shall be approved by the Zoning Officer in consultation with the Transportation Division Manager; and

3. Provide publically-available, real-time transportation information in a common area, such as a lobby or elevator bay, on televisions, computer monitors or other displays visible to residents and/or the public. Provided information shall include, but is not limited to, transit arrivals and departures for nearby transit routes.

B. In addition to any other restrictions on access to Residential Parking Permits, residents of any project subject to this Chapter that is located in a Commercial (C-prefixed) Zoning District shall not be eligible for Residential Parking Permit (RPP) permits under BMC Chapter 14.72.

Section 23C.18.040 Monitoring, Reporting and Compliance

A. For projects subject to this Chapter, prior to issuance of a Certificate of Occupancy, the property owner shall facilitate a site inspection by Planning Department staff to confirm that the physical improvements required in 23C.XX.030 (A) (2) and (4) have been installed. The property owner shall also provide documentation that the programmatic measures required in 23C.XX.030 (A) (1) and (2) will be implemented.

B. The property owner shall submit to the Planning Department TDM Compliance Reports in accordance with Administrative Regulations promulgated by the Zoning Officer that may be modified from time to time to effectively implement this Chapter.

C. Property owners may be required to pay administrative fees associated with compliance with this ordinance as set forth in the City's Land Use Planning Fees schedule.

Chapter 23D.12: Off-Street Parking Requirements

Sections:

23D.12.010 Purposes

The purposes of the parking regulations contained in this Chapter are:

A. To ~~prevent the worsening of the already serious deficiency of~~efficiently allocate parking spaces ~~existing in many areas of~~in the City.

B. To ~~require~~ regulate the provision of off-street parking spaces ~~for traffic-generating uses of land~~ within the City.

C. To reduce the amount of on-street parking of vehicles, thus increasing the safety and capacity of the City's street system. (Ord. 6478-NS § 4 (part), 1999)

23D.12.020 Applicability

A. The requirements of this Chapter apply to all uses commenced hereafter, to all buildings and structures hereafter constructed or moved onto a lot in an R- District and to any modifications to existing uses and structures which enlarge or increase capacity, including, but not limited to, adding or creating dwelling units, guest rooms, floor area, seats or employees, except to the extent that provisions in the individual R- District provide otherwise.

B. In addition, no building, structure, alteration, fence, landscaping or other site feature may be constructed, erected, planted or allowed to be established that would impede the access of a vehicle to any off-street parking space required under this Chapter.

C. No Zoning Certificate or Use Permit may be granted, and no permit other than a Variance from the requirements of this Chapter may be issued or approved, for any use, building or structure, unless all requirements of this Chapter are met.

~~D. In the event a Zoning Certificate is granted, the subsequent use of such building or structure is conditional upon the unqualified continuance, availability and proper maintenance of off-street parking in compliance with this Chapter. (Ord. 7210-NS § 5, 2011: Ord. 6478-NS § 4 (part), 1999)~~

23D.12.030 Off-site Parking

A. Any provided off-street parking space which is not located on the same lot with the structure or use it is to serve or is not located in a joint use of parking arrangement, must be located on land under the same ownership as the land on which the structure or use is located.

B. Any off-street parking space required by this chapter must be located within 300 feet of the structure or use it is intended to serve. This distance shall be measured from the nearest off-street parking space provided to the nearest point of the lot on which the use or structure to be served is located. Measurement shall be along public or private rights-of-way available for pedestrian access from the structure or use to the parking space. (Ord. 6478-NS § 4 (part), 1999)

23D.12.040 Residential Off-street Parking Spaces Shall Conform to Traffic Engineering Requirements

A. In addition to the requirements of this Ordinance, all off-street parking spaces, access driveways, circulation patterns and ingress and egress connections to the public right-of-way must conform to the City's Traffic Engineering requirements.

B. The Traffic Engineer shall determine whether the size, arrangement and design of off- street parking spaces, access driveways, circulation patterns and ingress and egress connections to the public right-of-way are adequate to create usable, functional, accessible and safe parking areas and are adequately integrated with the City's overall street pattern and traffic flows.

C. Dimensional requirements and standards for off-street parking spaces, driveway and other access improvements and maneuvering aisles shall be incorporated in administrative regulations, subject to the review and approval by the City Manager and the Board. (Ord. 6478-NS § 4 (part), 1999)

Chapter 23D.12: Off-Street Parking Requirements

23D.12.050 Number of Parking Spaces Required

A. Off-street parking spaces may not be reduced below or, if already less than may not be further reduced below, the requirements of this chapter for similar uses or structures.

B. ~~As a condition of any~~A Permit~~, the Zoning Officer and Board may require~~ may be conditioned to provide more than the minimum required off-street parking spaces for non-residential projects or non-residential portions of mixed-use projects ~~than the minimum required by the applicable residential District, if he/she or it finds that if~~ the expected demand for parking spaces ~~will~~ is found to exceed the minimum requirement.

C. When the formula for determining the number of required off-street parking spaces results in a requirement of a fractional space, any fraction below one-half shall be disregarded and fractions including and over one-half shall be counted as requiring one parking space.

D. ~~No~~ Oo~~f~~ff-street parking space requirements ~~under this Code~~ may be satisfied by a tandem off-street parking space~~, unless~~ with the issuance of an~~approved by both the City Traffic Engineer and the Board~~AUP.~~,~~ ~~except that a tandem space may be allowed to meet the parking requirement for an Accessory Dwelling Unit.~~

E. An applicant may count existing off-street parking spaces towards meeting the parking requirements of this Ordinance when both the existing use or portions of the use that is to remain and the proposed use and/or structure are used in computing the required number of off-street parking spaces. (Ord. 7426-NS § 3, 2015; Ord. 6763-NS § 3 (part), 2003: Ord. 6478-NS § 4 (part), 1999)

23D.12.060 Joint Use of Off-street Parking Spaces

A. The Zoning Officer may approve an AUP to allow a Joint Use Parking Agreement to satisfy off-street parking space requirements, if all of the following findings are made:

1. The off-street parking spaces designated for joint use are located within 800 feet of the use to be served; and

2. The times demanded for these parking spaces will not conflict substantially between the use offering the spaces and the use to be served; and

3. The off-street parking spaces designated for joint use are not otherwise committed to satisfying the parking requirements for some other use at similar times.

Chapter 23D.12: Off-Street Parking Requirements

B. The Board may approve a Use Permit authorizing ~~the~~ off-street parking requirements for offices in R-4 or R-5 Districts to be supplied jointly with off-street parking facilities provided for multiple dwellings, if it finds:

1. No more than 20 percent of the off-street parking spaces required for the multiple dwelling use will serve as required off-street parking for offices; and

2. The off-street parking spaces to be jointly used are located on the same lot as the offices which they are to serve, or on property under the same ownership within 300 feet from such offices.

C. A statement shall be recorded in the Office of the County Recorder that restricts the use of the property and designates the off-street parking that is to serve the other property. The deed restrictions shall state that the property cannot be used so as to prevent the use of the parking that is being provided in compliance with the requirements of the City, unless the restriction is removed by the City. Upon submission of satisfactory evidence either that other parking space meeting the requirements of this Ordinance has been provided or that the building or use has been removed or altered in use so as to no longer require the parking space, the City shall remove the restriction from the property. (Ord. 6794-NS § 1 (part), 2004: Ord. 6478-NS § 4 (part), 1999)

23D.12.065 Bicycle Parking

A. For residential projects, including the residential portion of mixed-use projects, of five or more units, in all districts, bicycle parking shall be provided as follows:

Use	Long Term Parking[1] Requirement	Short-Term Parking[1] Requirement
Dwelling Units (1 to 4 units)	None required	None required
Dwelling Units (5 units or more)	1 space per three bedrooms	2, or 1 space per 40 bedrooms, whichever is greater
Group Living Accommodations, Dormitories, Fraternity and Sorority Houses, Rooming and Boarding Houses, Transitional Housing)	2, or 1 space per 2.5 bedrooms, whichever is greater	2, or 1 space per 20 bedrooms, whichever is greater

Chapter 23D.12: Off-Street Parking Requirements

[1] Long-Term Parking and Short-Term Parking shall meet the design standards included in Appendix F of the 2017 *Berkeley Bicycle Plan*, or as subsequently amended by the Transportation Division.

23D.12.070 Two or More Uses of a Building

In the case of two or more uses in the same building, the total required off-street parking spaces shall be the sum of the requirements for the several uses computed separately. Off-street parking spaces for one use shall not be considered as providing required off-street parking spaces for any other use except to the extent joint use of parking spaces is permitted. (Ord. 6478-NS § 4 (part), 1999)

23D.12.080 Site Location and Screening of Uncovered Parking Spaces and Driveways

A. One new off-street parking space in a side yard where none exists may be allowed by right. Such space must be constructed of a permeable surface unless it is determined to be infeasible by the Public Works Department or Office of Transportation. Vegetative screening shall be provided pursuant to this Section. Location of the space shall minimize impact on usable open space.

B. No portion of an off-street parking space may be located in a required front, street-side side yard, or rear yard unless such location is authorized by Section 23C.24.050.G, or an AUP, approved by the Traffic Engineer, and meets all of the requirements in this section.

C. No off-street parking space shall be located closer than ten feet in horizontal distance from a door or a window of any building containing three or more dwelling units, which is located on the same or approximately the same level, unless authorized by an AUP. For the purposes of this section, a window whose bottom edge or point is more than six feet in vertical height from the level of the subject off-street parking space shall not be considered on the same or approximately the same level.

D. The difference in elevation between an off-street parking space and the finished grade on adjacent areas of the lot shall not exceed five feet at any point. Where such difference in elevation is greater than three feet and the parking space is lower than finished grade, the space shall not be located closer than four feet to any lot line. Where the space is higher than finished grade it shall not be located closer than six feet to any lot line. This section does not apply to parking decks.

E. All paved areas for off-street parking spaces, driveways and any other vehicle-related paving, except for pedestrian walkways that are separated from such areas by a landscaped strip at least two feet wide, must be

separated from any adjacent rear or interior side lot line by a landscaped strip at least two feet wide, except that driveways spanning a side lot line which are designed to serve two (2) adjacent lots are not subject to the landscape strip requirements along that side lot line.

F. Screening must be provided for two or more off-street parking spaces, or any parking space located partly or entirely within a required rear yard, in a manner that effectively screens parked vehicles from view from buildings and uses on adjacent, abutting and confronting lots. Such screening must consist of a continuous view-obscuring wood fence, masonry wall or evergreen hedge, not less than four feet, and not more than six feet in height, which may be broken only for access driveways and walkways.

G. In the case of parking areas of four or more off-street spaces, the parking area must be separated from an adjacent rear or interior side lot line by a landscaped strip which averages at least four feet in width along the applicable property line.

H. The total area of pavement devoted to off-street parking spaces, driveways and other vehicle-related paving shall not exceed 50% of any required yard area that runs parallel to and abuts a street.

I. No driveway may exceed 20 feet in width at any property line abutting a street or one-half of the width of the street frontage of the lot, whichever is less.

J. Driveways must be spaced at least 75 feet from one another, as measured along any continuous property line abutting a street for each lot in any residential District. (Ord. 7426-NS § 4, 2015; Ord. 6942-NS § 2 (part), 2006: Ord. 6848-NS § 5 (part), 2005: Ord. 6478-NS § 4 (part), 1999)

23D.12.090 Parking Lot Standards

A. Unless specifically prohibited in an individual R- District, parking lots are permitted in any R- District only if authorized by a Use Permit, and in compliance with the requirements of this section.

B. No sign of any kind, other than those designating the parking lot name, entrances, exits, or conditions of use, may be erected or maintained.

C. All lighting fixtures must be oriented in a manner to direct the light away from adjacent lots.

D. Suitable wheel bumpers must be provided to protect screening and adjacent property.

E. No commercial repair work or service of any kind may be conducted on the lot.

F. The screening and landscaping of the lot must be in accordance with the provisions set forth in Section 23D.12.080.F-G.

G. A durable and dustless surface must be provided and maintained and the lot must be graded to dispose of all surface water.

H. The Board may waive any or all of the above conditions in the case of a temporary parking lot. (Ord. 7210-NS § 6, 2011: Ord. 6478-NS § 4 (part), 1999)

Chapter 23E.28: Off-Street Parking and Transportation Services Fee

Sections:

Note:

The following off-street parking and off-street loading space requirements shall apply to uses, buildings and structures located in C- (commercial), MU- (mixed use) and M- (manufacturing) Districts. In addition to the requirements of this Ordinance all off- street parking spaces, off-street loading spaces, access driveways, circulation patterns and ingress and egress connections to the public right-of-way shall conform to the City's Traffic Engineering requirements. (Ord. 6478-NS § 4 (part), 1999)

23E.28.010 Purposes

The purposes of the parking regulations in this chapter are:

A. To ~~prevent the worsening of the already serious deficiency of~~efficiently allocate parking spaces ~~existing in many areas of~~in the City.

B. To ~~require~~ regulate the provision of off-street parking spaces for traffic-generating uses of land within the City.

C. To reduce the amount of on-street parking of vehicles, and thus increase the safety and capacity of the City's street system. (Ord. 6478-NS § 4 (part), 1999)

23E.28.020 Applicability

A. The requirements of this chapter apply to all uses commenced hereafter, to all buildings and structures hereafter constructed or moved onto a lot in a C-, M- or MU- District and to any modifications to existing uses and structures which enlarge or increase capacity, including, but not limited to, adding or creating dwelling units, guest rooms, floor area, seats or employees, except to the extent that provisions in the individual C-, M- or MU- District provide otherwise.

B. ~~In addition, no~~No building, structure, alteration, fence, landscaping or other site feature may be constructed, erected, planted or allowed to be established that would impede ~~the~~ access ~~of a vehicle~~ to any off-required street parking space ~~required under this Ordinance~~.

~~C. No Zoning Certificate or Use Permit may be granted and no permit other than a Variance from the requirements of this chapter, may be issued or approved, for any use, building or structure, unless all requirements of this chapter are met.~~

C~~D~~. In the event a Zoning Certificate is granted, the subsequent use of such building or structure is conditional upon the unqualified continuance, availability and proper maintenance of off-street parking in compliance with this chapter. (Ord. 6856-NS § 3 (part), 2005: Ord. 6478-NS § 4 (part), 1999)

23E.28.030 Off-site Parking Requirements [no changes]

23E.28.040 Traffic Engineering Requirements [no changes]

23E.28.050 Number of Parking Spaces Required

A. Off-street parking spaces provided in conjunction with a use or structure existing on October 1, 1959, on the same property or on property under the same ownership, may not be reduced below, or if already less than, may not be further reduced below, the requirements of this chapter for similar use or structure. However, required parking spaces may be removed to meet ADA compliance or traffic engineering standards.

Chapter 23E.28: Off-Street Parking and Transportation Services Fee

B. ~~In the case of an AUP, a Use Permit, or a variance the Zoning Officer and Board~~ A Permit may be conditioned to ~~provide require~~ more than the minimum required off-street parking spaces for non-residential projects or non-residential portions of mixed-use projects t~~han the minimum required by the applicable District,~~ if ~~he/she or it finds that~~ the expected demand for parking spaces ~~will~~ is found to exceed the minimum requirement.

C. When the formula for determining the number of required off-street parking spaces results in a requirement of a fractional space, any fraction below one-half shall be disregarded, and fractions including and over one-half shall be counted as requiring one parking space.

D. ~~No~~ O~~o~~ff-street parking space requirements may be satisfied by a tandem off-street parking space with the issuance of an AUP. ~~under this Ordinance may be satisfied by a tandem off-street parking space, unless approved by both the City Traffic Engineer and the Board.~~

E. An applicant may count existing off-street parking spaces towards meeting the parking requirements of this Ordinance when both the existing use, or portions of the use that is to remain, and the proposed use and/or structure are used in computing the required number of off-street parking spaces.

F. When the number of off-street parking spaces required for a structure or use is based on the number of employees, it shall be based upon the shift or employment period during which the greatest number of employees are present at the structure or use.

G. When the number of off-street parking spaces required is based on the floor area for a specified use, the definition of Floor Area, Gross as set forth in Sub-title 23F shall apply. In addition, unenclosed areas of a lot, including, but not limited to, outdoor dining areas, garden/building supply yards and other customer-serving outdoor areas for retail sales, shall also be counted toward the floor area for those commercial uses with specified off-street parking requirements. (Ord. 6856-NS § 4 (part), 2005: Ord. 6478-NS § 4 (part), 1999)

23E.28.060 Joint Use of Off-street Parking Spaces [no changes]

23E.28.070 Bicycle Parking

A. Bicycle parking spaces required by each District's bicycle parking requirements shall be located in either a locker, or in a rack suitable for secure locks, and shall require location approval by the City Traffic Engineer and Zoning Officer. Bicycle parking shall be located in accordance to the design review guidelines.

B. Except in C-E and C-T Districts, Bicycle Parking shall be provided for new floor area or for expansions of existing industrial, commercial, and other non-residential buildings at a ratio of one space per 2,000 square feet of gross floor area.

C. For residential projects, including the residential portion of mixed-use projects, of five or more units, in all districts, bicycle parking shall be provided as follows:

Use	Long Term Parking[1] Requirement	Short-Term Parking[1] Requirement
Dwelling Uunits (1 to 4 units)	None required	None required
Dwelling Uunits (five5 units or more)	1 space per three bedrooms	2, or 1 space per 40 bedrooms, whichever is greater
Group Living Accommodations, (Dormitories, Fraternity and Sorority Houses, Rooming and Boarding Houses, Transitional Housing)	2, or one1 space per 2.5 bedrooms, whichever is greater	2, or 1 space per 20 bedrooms, whichever is greater
[1] Long-Term Parking and Short-Term Parking shall meet the design standards included in Appendix F of the 2017 *Berkeley Bicycle Plan*, or as subsequently amended by the Transportation Division.		

C D. The Zoning Officer in consultation with the City Traffic Engineer may modify the requirement with an Administrative Use Permit for Tourist Hotels in the C-DMU District. (Ord. 7475-NS § 3, 2016: Ord. 6478-NS § 4 (part), 1999)

23E.28.080 Location and Screening of Parking Spaces and Driveways [no changes]

23E.28.090 In-lieu Parking Fee [no changes]

23E.28.100 Transportation Services Fee [no changes]

23E.28.110 Payment and Collection [no changes]

Chapter 23E.28: Off-Street Parking and Transportation Services Fee

23E.28.120 Use of TSF Funds [no changes]

23E.28.130 Parking Requirements for Change of Use and Expansions of Buildings in C, M, MM, MU and R-SMU Districts [no changes]

23E.28.140 Required Findings for Parking Reductions Under Section 23E.28.130 for C Districts [no changes]

23E.28.145 Required Findings for Parking Reductions Under Section 23E.28.130 for M, MM, and MU Districts [no changes]

23B.44.010 Variances

The Board may grant Variances to vary or modify the strict application of any of the regulations or provisions of this Ordinance with reference to the use of property~~,~~; the height of buildings~~,~~; the yard setbacks of buildings~~,~~; the percentage of lot coverage~~,~~; the lot area requirements~~,~~; or the non-residential ~~the~~ off-street parking ~~space~~ requirements of this Ordinance; provided, however, that a use permit, rather than a variance, may be approved to vary or modify the strict application of any of the regulations or provisions of this Ordinance with reference to the yard setbacks of buildings~~,~~; the percentage of lot coverage~~,~~; or the non-residential off-street parking space requirements of this Ordinance when development is proposed on property which is located within thirty feet of an open creek and where varying from or modifying existing regulations is necessary to enable the property owner to comply with BMC Chapter 17.08, Preservation and Restoration of Natural Watercourses; provided, also, that a use permit, rather than a variance, may be approved to reduce required off-street parking for residential projects or residential portions of mixed-use projects not in Berkeley Fire Zones 2 or 3. In Berkeley Fire Zones 2 or 3, residential off-street parking requirements can be reduced with the approval of a variance. (Ord. 6954-NS § 1 (part), 2006: Ord. 6478-NS § 4 (part), 1999)

RESOLUTION NO. _____

RESOLUTION OF THE COUNCIL OF THE CITY OF SANTA ROSA AUTHORIZING AN INCREASE IN PARKING USER FEES

WHEREAS, Nelson/Nygaard Consulting Associates, Inc. (Consultant) completed a study of the City's Parking Program and presented its findings and recommendations in a final report entitled *Santa Rosa Citywide Progressive Parking Management Strategy*, dated February, 2017; and

WHEREAS, the Finance Department has reviewed the Consultant's report and recommends adoption of new and changed fees as detailed in the Schedule of Parking User Fees, attached as Exhibit A; and

WHEREAS, on June 6, 2017, the Council held a duly noticed public hearing on the proposed revised fees, at which all those wishing to be heard were allowed to speak or present written comments; and

WHEREAS, the proposed user fees are consistent with the Consultant recommendations and are designed to improve access to high demand parking areas, and balance use of the parking inventory, while providing an affordable parking option for low wage employees.

NOW, THEREFORE, BE IT RESOLVED that the Council of the City of Santa Rosa finds and determines that the adoption of the fees set forth in Exhibit A is for the purpose of improving parking accessibility while also meeting operating expenses and obtaining funds for capital projects necessary to maintain service within existing service areas and therefore is exempt from the requirements of the California Environmental Quality Act pursuant to Section 15273a of the CEQA Guidelines.

BE IT FURTHER RESOLVED that the Council adopts the proposed Schedule of Parking User Fees, attached hereto as Exhibit A, and authorizes the Chief Financial Officer to implement the fees in accordance with Exhibit A.

BE IT FURTHER RESOLVED that the Council authorizes the Chief Financial Officer to adjust the parking meter fees set forth in Exhibit A as follows:

A target metered parking space occupancy rate of eighty-five percent (85%) in the Central Business District and Railroad Square parking meter zones is established. The Chief Financial Officer shall make appropriate adjustments to parking meter fees to achieve the target occupancy rate, subject to the following limitations and guidelines:

1. Parking meter fees may be adjusted no more than once per six-month period.
2. Parking meter fees may be set between $0.25 and $3.00 per hour.
3. Parking meter fees may be either flat or variable rates.
4. Parking meter fees may be adjusted by increments no greater than $0.25 per hour.

5. Adjustments to parking meter fees shall be based on metered parking occupancy data collected in each meter rate area and at each surface lot.
6. Adjustments to parking meter fees shall be posted by the Chief Financial Officer to the City's website.

This fee schedule is adopted pursuant to Chapter 11-24 of the Santa Rosa City Code.

IN COUNCIL DULY PASSED this _____ day of _____, 2017.

AYES:

NOES:

ABSENT:

ABSTAIN:

ATTEST: _____ APPROVED: _____
City Clerk Mayor

APPROVED AS TO FORM:

_____
City Attorney

Exhibit A – Schedule of Parking User Fees

Agenda Item #15.3
For Council Meeting of: June 6, 2017

CITY OF SANTA ROSA
CITY COUNCIL

TO: MAYOR AND CITY COUNCIL
FROM: DEBORAH LAUCHNER, CHIEF FINANCIAL OFFICER, FINANCE DEPARTMENT
KIM NADEAU, PARKING MANAGER, FINANCE DEPARTMENT
SUBJECT: PARKING RATE CHANGES AND PARKING ORDINANCE AMENDMENT

AGENDA ACTION: ORDINANCE INTRODUCTION AND RESOLUTION

RECOMMENDATION

It is recommended by the Finance Department that the Council 1) introduce an ordinance amending Section 11-08.060 and various sections of Chapter 11-24 Parking - Metered and Unmetered Locations of the Santa Rosa City Code to implement best practices for managing parking; and 2) by resolution, adopt the Schedule of Parking User Fees.

EXECUTIVE SUMMARY

This item advances Council Goal 1.3 – Implement Parking District Economic Development Initiatives with recommendations to implement progressive parking strategies designed to improve access to parking spaces and maximize use of the parking inventory to promote economic growth in the downtown.

BACKGROUND

The Parking District has responsibility to develop, maintain, and operate public parking facilities and carry out an effective parking program. The District currently owns and operates five (5) parking garages, and seven (7) surface parking lots. In addition, the District operates three (3) surface parking lots on property that is leased in Railroad Square. The Parking program also maintains and operates approximately 1,000 on-street metered parking spaces.

Costs of the District are funded through parking user fees, which include meter fees, monthly permit fees and the hourly rate charged in the garages. The parking user fees were last revised in 2008. The proposed ordinance change and corresponding fee changes are consistent with the findings and recommendations made by Nelson/Nygaard Consulting Associates, Inc. in the *Santa Rosa Citywide Progressive Parking Management Strategy* dated February, 2017 (Attachment 1). Since 2009, when

Donald Shoup, PhD, visited Santa Rosa and discussed his parking theories with the community there has been interest in implementation of progressive parking policies.

PRIOR CITY COUNCIL REVIEW

On March 14, 2017, the City Council conducted a Study Session to review findings and recommendations of the study completed by Nelson/Nygaard Consulting Associates, Inc. regarding progressive parking strategies and a Railroad Square parking management plan.

On May 10, 2016, the City awarded a contract to Nelson/Nygaard Consulting Associates, Inc. to develop a parking management plan for Railroad Square and progressive parking strategies for the entire downtown area.

On October 27, 2015, the City Council conducted a study session to provide an overview of the City's parking program and provide an update on the status of Council Goals related to parking.

On May 17, 2011, the City Council conducted a study session to review the Parking District and its policies.

On August 11, 2009, the City Council and Planning Commission, received a presentation from Donald Shoup, PhD, regarding his research on parking policies and progressive parking theory. Progressive parking strategies focus on pricing strategies to manage parking occupancy and improve parking accessibility, with a goal of setting the lowest parking rate to achieve 85% occupancy per block.

ANALYSIS

The Department is proposing changes in Fiscal Year 2017-18 to parking meter rates, parking permits, and the garage maximum daily rate, as detailed in Exhibit A to this staff report. In order to implement these changes, an ordinance amendment must be adopted which provides authority for the Finance Department to adjust parking meter rates to improve parking accessibility and most effectively manage the parking supply.

Fee changes proposed to take effect **July 1, 2017** include:

- Establish a low wage employee permit rate for Garages 1 (521 7th Street) and 12 (555 1st Street). (*New*)

  To address the need for affordable parking options for low wage employees and to encourage increased utilization of Garages 1 and 12, the Department is recommending that a permit rate be established to allow sale of a limited number of low wage employee permits. The Department is recommending a permit rate of $31 per month, which is 50% of the non-reserved monthly permit rate. This permit will be made available to employees earning $17.80/hour or less, based on the United States Department of Housing and Urban Development published income guidelines for 60% of median income for Sonoma County.

- Increase in metered parking space reservation fee.

  Santa Rosa City Code §11-24.090 authorizes provision of parking space meter reservations for persons or firms engaged in construction, providing repairs or service to buildings, or other like work that requires that a metered parking space immediately adjacent to such work be reserved for and restricted to their use. The fee for metered parking space reservation is recommended to increase in the Premium Rate Area from $12 to $15 per day (25% increase), consistent with the recommended increase in the hourly meter rate. The metered parking space reservation charge of $12 per day will remain the same in the Value Rate Area.

Fee changes proposed to take effect within 90 days of approval by the City Council include:

- Establish Premium and Value Rate Areas for parking meter fees. *(New)*

  The Department is recommending the establishment of two parking meter rate areas as shown in Attachment 2. The Premium Rate Area is in the core downtown on those streets that regularly exceed 85% occupancy at peak times. The Value Rate Area includes parking meters outside the Premium Rate Area, and are typically below 85% occupancy. Parking meter rates in the Premium Rate Area will increase from $1.00 per hour to $1.50 per hour. The parking meter rates in Value Rate Area will remain $1.00 per hour. This rate structure is recommended by staff and was recommended by Nelson/Nygaard Consulting Associates in their February 2017 report.

  Rates will be adjusted periodically, no more frequently than once every six months, and by increments no greater than $0.25 per hour, to achieve 85% occupancy. Adjustments will be based on occupancy data collected in each meter rate area. Rates may be adjusted upward when occupancy rates at peak times exceed 85%, and downward when occupancy rates at peak times are less than 70%.

  In addition to generating revenue necessary for the operation and maintenance of Parking District facilities, an increase in the meter rate is necessary to encourage balanced use of the parking facilities. Parking management best practices require that parking meter rates be kept higher than the garages to ensure that short-term spaces are available to the public by encouraging long-term parkers to take advantage of more favorable rates offered in the garages.

  The parking meter rates were last changed in July 2008, when the rate increased from $0.75 per hour to $1.00 per hour in the Parking District; and in July 2010, when the rate was increased from $0.50 per hour to $1.00 hour in the Railroad Square parking meter zone.

  In conjunction with establishing rates for the Premium and Value Rate Areas, Nelson/Nygaard Consulting Associates recommended changing the times of parking enforcement to match the need for parking accessibility, in addition to relaxing time limits to improve the customer experience. This furthers the Shoup

parking theory of using pricing to achieve turnover, rather than time limits. Staff recommends the following:

	Hours of Operation	Time Limits	Hourly Rate
Premium Rate Area:			
Current	8 a.m. – 6 p.m.	1-2 hours	$1.00
Proposed	10 a.m. – 8 p.m.	3 hours	$1.50
Value Rate Area:			
Current	8 a.m. – 6 p.m.	1-10 hours	$1.00
Proposed	10 a.m. – 6 p.m.	4-8 hours	$1.00

- Changes in parking permit rates.

  The Department is recommending approval of changes in reserved and non-reserved garage and lot permits consistent with recommendations made by Nelson/Nygaard. The garages are not included in the Premium and Value Rate Areas, however the recommended rate changes are consistent with the principle of using pricing to manage and distribute use of the parking facilities.

  The rates are detailed in Attachment 3 to this staff report. Permit rates are decreasing 27% at Garage 12 to be consistent with permit rates at Garage 1, which has similar occupancy rates. Permit rates will remain the same at Garage 1, and at Lots 6 and 7, and Morgan Street. Permit rates will increase from 10-14% at Garages 3, 5, and 9, and Lots 2, 10, 13, 14 and D which is reflective of the high demand for permits at these locations. See Attachment 4 for a map of parking facility locations.

- First hour free at Garage 1 (521 7th Street) and Garage 12 (555 1st Street). *(New)*

  To encourage more balanced use of the parking inventory, the Department recommends that the first hour of parking, for hourly parkers, be offered at no charge. Garage 1 and Garage 12 have the lowest occupancy. It is expected that providing an incentive of one free hour of parking will boost use at these two facilities.

- Changes in garage hourly rate and maximum daily rate.

  Since 2008, the hourly rate in the garages has been $0.75 per hour, and maximum daily rate in the garages has been $8.00. Consistent with the progressive parking theories of Donald Shoup, the Department is recommending that the hourly rate in the garages correspond to the parking demand at each facility. Garages 1 and 12 have the lowest occupancy and therefore, in addition to the recommended first hour at no charge, will have a reduction in hourly rate to

$0.50 per hour. Garage 5, which has the highest demand, will be increased to $1.00 per hour. Garages 3 and 9 will continue to charge $0.75 per hour. The maximum daily rate has a corresponding decrease to $6.00 per day at Garages 1 and 12, and an increase to $10.00 per day at Garage 5.

FISCAL IMPACT

It is anticipated that implementation of the amended ordinance and adoption of these recommended Parking User Fees will result in a small net revenue increase to the Parking Fund. It is expected that the increased revenues from the rate increases will be offset in large part by the decrease in user fees for permits and providing the first hour free at Garages 1 and 12. Approval of this action does not have a fiscal impact on the General Fund.

ENVIRONMENTAL IMPACT

This action is exempt from the California Environmental Quality Act (CEQA) because it is not a project which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment, pursuant to CEQA Guideline section 15378.

BOARD/COMMISSION/COMMITTEE REVIEW AND RECOMMENDATIONS

On February 7, 2017, a review of the progressive parking strategies and Railroad Square parking plan findings was presented to the Downtown subcommittee.

NOTIFICATION

Not applicable.

ATTACHMENTS

- Attachment 1 – Santa Rosa Citywide Progressive Parking Management Strategy, dated February, 2017
- Attachment 2 – Map of Premium and Value Rate Areas
- Attachment 3 – Proposed Schedule of Parking User Fees
- Attachment 4 – Map of Parking Facility Locations
- Attachment 5 – Redline/Strikeout of various sections of City Code
- Resolution/Exhibit A Schedule of Parking User Fees
- Ordinance

CONTACT

Kim Nadeau, Parking Manager, Finance Department, knadeau@srcity.org, 707-543-3464

APPENDIX C

Sample Parking Policy Fact Sheet

How Would Demand-Responsive Pricing Work in [Insert City]?

LEARN MORE BY VISITING:
[insert website]

OR CONTACT:
[insert email]

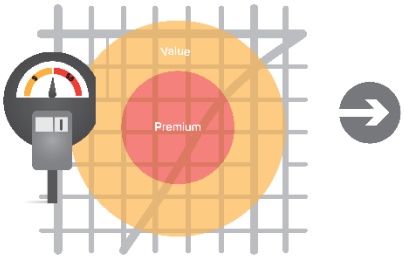
Demand-responsive pricing charges the lowest possible rate to achieve availability targets — matching price and demand to ensure there is always an open parking space nearby to someone searching for parking.

- *Static parking prices are replaced with demand-based prices that are adjusted over time based on parking demand – more convenient or "in demand" spaces cost more than less convenient parking spaces.*
- *The ideal on-street parking occupancy rate is around 85%, which leaves roughly one to two spaces available per block. For off-street facilities where turnover is less frequent, the ideal rate is approximately 90-95%, which ensures supply is optimally utilized. To achieve these rates, cities decrease hourly rates where utilization is lower than the target and increase hourly rates in areas where utilization is higher than the target.*
- *With demand-responsive pricing in place, there can be less emphasis on time limits to create turnover. Extending parking time limits makes parking more convenient for drivers. For example, a 4-hour limit gives ample time for visitors to visit multiple businesses without rushing back to their vehicle or risking a parking ticket. Some cities with demand-responsive pricing have found they can remove time limits altogether.*

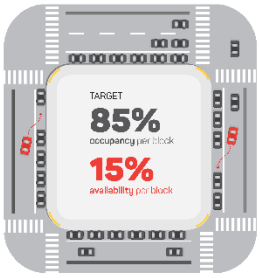
Which Bay Area cities have implemented this?

- Berkeley
- Santa Rosa
- Redwood City
- San Francisco
- San Mateo
- Walnut Creek

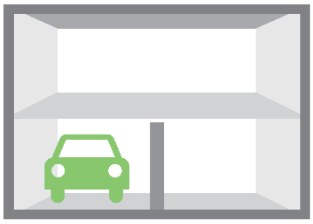
1 Eligible parking zones or blocks are identified based on existing demand for parking.



2 On-street pricing is set to achieve a goal of 85% occupancy with 15% availability on every block, at any given time.



3 Off-street facilities have an occupancy goal of 90-95%, and should be priced lower than higher demand on-street parking.



Why is it Recommended?

- Researchers have determined that the ideal parking availability rate is about 15%, which means there will be roughly 1-2 spaces available per block at all times.
- Other cities have seen increases in parking availability and decreases in meter rates
- Demand-responsive parking pricing reduces the reliance on time limits, which results in fewer citations and a more positive parking experience for drivers.

Benefits Summary

- Aligns price and demand to ensure there is always an open space.
- Makes it easier to find a parking space.
- Reduces circling for parking.
- Reduces congestion and improves traffic flow and air quality.
- Creates lower rate parking options.

APPENDIX D

Parking Policy Database

The Parking Policy Database serves as an inventory of local parking policies and management approaches across different cities in the Bay Area. The database serves as an update to information collected from the 2012 MTC survey of 52 Bay Area cities' parking requirements and related policies. This updated database is organized as follows:

- **Parking standards:** required off-street parking spaces by land use (residential, retail, office, and mixed use)
  - Policies: parking minimums, maximums
- **Parking provisions**: exemptions, incentives, and other policies that allow for deviations from the typical parking standards (e.g., shared parking, unbundling, and affordable housing parking reductions)
  - Policies: shared parking, on-street parking credits, common area parking, ADA parking, transit proximity, affordable housing, downtown, small stores, senior housing, compact car percentage, unbundling, in-lieu fees, and special parking districts
- **Strategic curbside complements:** on-street parking policies that help manage the curbside
  - Policies: residential parking permit program, metered parking, demand responsive pricing/rate adjustment protocol, parking benefit district, employee parking program
- **Transportation demand management (TDM):** policies that promote diverse mobility options and travel choice and reduce parking demand
  - Policies: developer TDM requirements, employer TDM/trip reduction requirement, trip cap/mode split target, transportation management association (TMA)
- **Requirements/standards for alternative vehicles:** required spaces and guidelines for bicycles, car-share vehicles, motorcycles, and alternative fuel vehicles
  - Policies: required parking minimums for alternative vehicles

While baseline standards for developments citywide are a key measure of a City's approach to parking policy, innovation is often focused on key districts – downtowns, mixed-use centers, overlay districts, etc. The database is organized to allow for both a broad overview of baseline measures, in the "Citywide Spotlight" tab, as well as a quick scan for new ideas and approaches, in the "Special Districts" tab.

The database is available on the ABAG-MTC Technical Assistance website (https://abag.ca.gov/technical-assistance).

Cutting the Cost of Parking Requirements

DONALD SHOUP

A city can be friendly to people or it can be friendly to cars, but it can't be both.

Enrique Peñalosa

At the dawn of the automobile age, suppose Henry Ford and John D. Rockefeller had hired you to devise policies to increase the demand for cars and gasoline. What planning regulations would make a car the obvious choice for most travel? First, segregate land uses (housing here, jobs there, shopping somewhere else) to increase travel demand. Second, limit density at every site to spread the city, further increasing travel demand. Third, require ample off-street parking everywhere, making cars the default way to travel.

American cities have unwisely embraced each of these car-friendly policies, luring people into cars for 87 percent of their daily trips. Zoning ordinances that segregate land uses, limit density, and require lots of parking create drivable cities but prevent walkable neighborhoods. Urban historians often say that cars have changed cities, but planning policies have also changed cities to favor cars over other forms of transportation.

Minimum parking requirements create especially severe problems. In *The High Cost of Free Parking,* I argued that parking requirements subsidize cars, increase traffic congestion and carbon emissions, pollute the air and water, encourage sprawl, raise housing costs, degrade urban design, reduce walkability, damage the economy, and exclude poor people. To my knowledge, no city planner has argued that parking requirements do *not* have these harmful effects. Instead, a flood of recent research has shown they *do* have these effects. We are poisoning our cities with too much parking.

Minimum parking requirements are almost an established religion in the planning profession. One shouldn't criticize anyone else's religion but, when it comes to parking requirements, I'm a protestant and I think the profession needs a reformation.

Donald Shoup is Editor of ACCESS and Distinguished Research Professor of Urban Planning in UCLA's Luskin School of Public Affairs (shoup@ucla.edu).

The High Cost of Minimum Parking Requirements

Planners are placed in a difficult position when asked to set parking requirements in zoning ordinances because they don't know the demand for parking at every art gallery, bowling alley, dance hall, fitness club, hardware store, movie theater, night club, pet store, tavern, zoo, and hundreds of other land uses. Planners also do not know how much parking spaces cost or how the parking requirements affect everything else in the city. Nevertheless, planners must set the parking requirements for every land use and have adopted a veneer of professional language to justify the practice. Planning for parking is an ad-hoc talent learned on the job and is more a political activity than a professional skill. Despite a lack of both theory and data, planners have managed to set parking requirements for hundreds of land uses in thousands of cities—the ten thousand commandments for off-street parking.

Without knowing how much the required parking spaces cost to build, planners cannot know how much parking requirements increase the cost of housing. Small, spartan apartments cost much less to build than large, luxury apartments, but their parking spaces cost the same. Many cities require the same number of spaces for all apartments regardless of their size; the cost of the required parking thus greatly increases the price of low-income housing.

Parking requirements reduce the cost of owning a car but raise the cost of everything else. Recently, I estimated that the parking spaces required for shopping centers in Los Angeles increase the cost of building a shopping center by 67 percent if the parking is in an aboveground structure and by 93 percent if the parking is underground.

Developers would provide some parking even if cities did not require it, but parking requirements would be superfluous if they did not increase the parking supply. This increased cost is then passed on to all shoppers. For example, parking requirements raise the price of food at a grocery store for everyone, regardless of how they travel. People who are too poor to own a car pay more for their groceries to ensure that richer people can park free when they drive to the store.

Minimum parking requirements resemble what engineers call a *kludge:* an awkward but temporarily effective solution to a problem, with lots of moving parts that are clumsy, inefficient, redundant, hard to understand, and expensive to maintain. Instead of reasoning about parking requirements, planners must rationalize them. Parking requirements result from complex political and economic forces, but city planners enable these requirements and sometimes even oppose efforts to reform them. Ultimately, the public bears the high cost of this pseudoscience. ➢

A single parking space can cost far more to build than the net worth of many American households.

The Median is the Message

Cities require parking for every building without considering how the required spaces place a heavy burden on poor people. A single parking space, however, can cost far more to build than the net worth of many American households.

In recent research, I estimated that the average construction cost (excluding land cost) for parking structures in 12 American cities in 2012 was $24,000 per space for aboveground parking, and $34,000 per space for underground parking (Table 1).

By comparison, in 2011 the median net worth (the value of assets minus debts) was only $7,700 for Hispanic households and $6,300 for Black households in the United States (Figure 1). One space in a parking structure therefore costs at least three times the net worth of more than half of all Hispanic and Black households in the country. Nevertheless, cities require several parking spaces per household by requiring them at home, work, stores, restaurants, churches, schools, and everywhere else.

Many families have a negative net worth because their debts exceed their assets: 18 percent of all households, 29 percent of Hispanic households, and 34 percent of Black households had zero or negative net worth in 2011 (Figure 2). The only way these indebted people can use the required parking spaces is to buy a car, which they often must finance at a high, subprime interest rate. In a misguided attempt to provide free parking for everyone, cities have created a serious economic injustice by forcing developers to build parking spaces that many people can ill afford.

Urban planners cannot do much to counter the inequality of wealth in the US, but they can help to reform parking requirements that place heavy burdens on minorities and the poor. Simple parking reforms may be city planners' cheapest, fastest, and easiest way to achieve a more just society. ➢

TABLE 1

The Construction Cost of a Parking Space

CITY	CONSTRUCTION COST PER SQUARE FOOT		CONSTRUCTION COST PER PARKING SPACE	
	UNDERGROUND $/SQ FT (1)	ABOVEGROUND $/SQ FT (2)	UNDERGROUND $/SPACE (3) = (1) x 330	ABOVEGROUND $/SPACE (4) = (2) x 330
Boston	$95	$75	$31,000	$25,000
Chicago	$110	$88	$36,000	$29,000
Denver	$78	$55	$26,000	$18,000
Honolulu	$145	$75	$48,000	$25,000
Las Vegas	$105	$68	$35,000	$22,000
Los Angeles	$108	$83	$35,000	$27,000
New York	$105	$85	$35,000	$28,000
Phoenix	$80	$53	$26,000	$17,000
Portland	$105	$78	$35,000	$26,000
San Francisco	$115	$88	$38,000	$29,000
Seattle	$105	$75	$35,000	$25,000
Washington, DC	$88	$68	$29,000	$22,000
Average	**$103**	**$74**	**$34,000**	**$24,000**

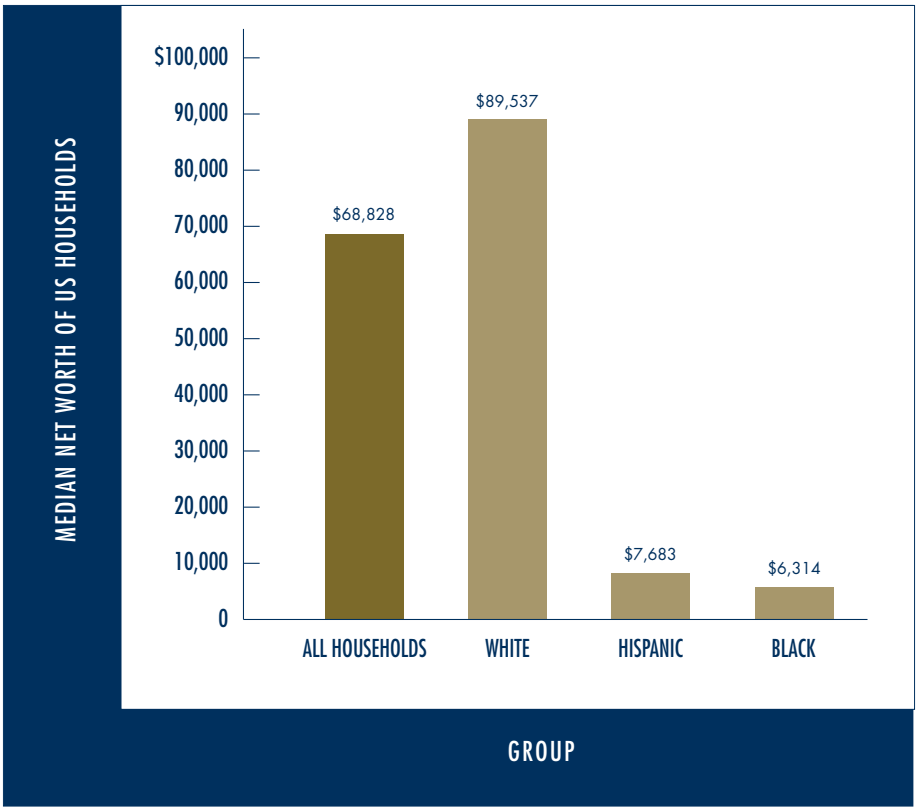


FIGURE 1

Median Net Worth of US Households, 2011

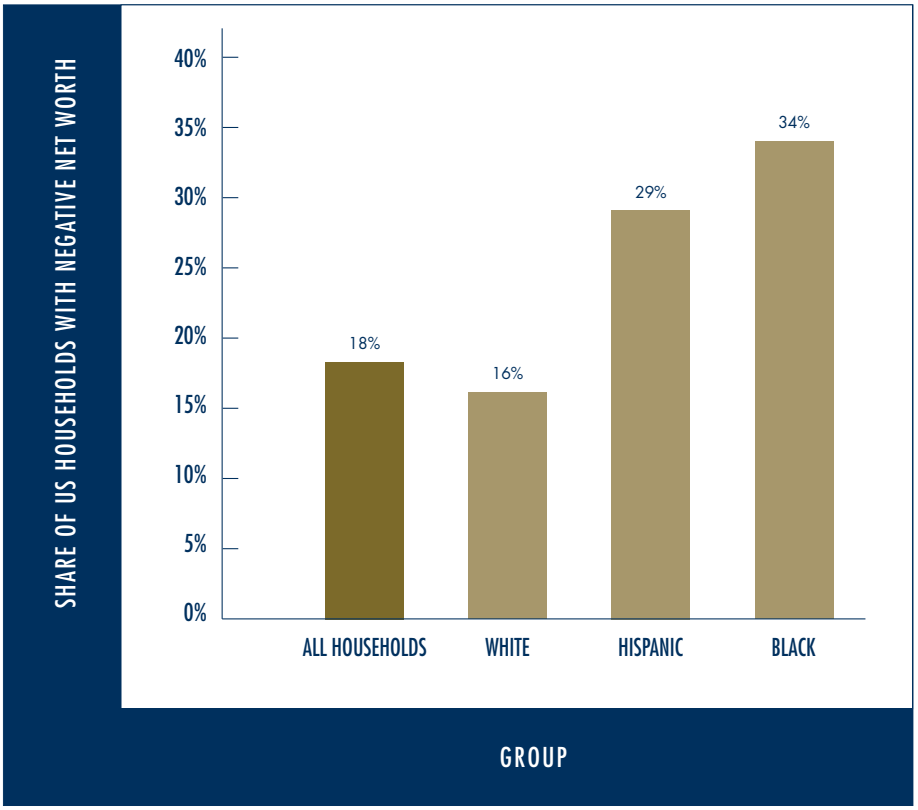


FIGURE 2

Share of US Households with Zero or Negative Net Worth, 2011

Putting a Cap on Parking Requirements

Off-street parking requirements increase the cost and reduce the supply of affordable housing. Most cities do not intend to exclude low-income residents when they require off-street parking, but even good intentions can produce bad results. Thoughtless planning for parking can be as harmful as a perverse and deliberate scheme.

Perhaps because of growing doubts about parking requirements, a few cities have begun to reduce or remove them, at least in their downtowns. Planners and elected officials are beginning to recognize that parking requirements increase the cost of housing, prevent infill development on small lots where it is difficult to build all the required parking, and prohibit new uses for older buildings that lack the required parking spaces.

According to recent newspaper articles, some of the reasons cities have reduced or removed their parking requirements include "to promote the creation of downtown apartments" (Greenfield, Massachusetts), "to see more affordable housing" (Miami), "to meet the needs of smaller businesses" (Muskegon, Michigan), "to give business owners more flexibility while creating a vibrant downtown" (Sandpoint, Idaho), and "to prevent ugly, auto-oriented town-houses" (Seattle).

Given this policy momentum, I thought the time to reform parking requirements in California had arrived when the legislature considered Assembly Bill 904 (the Sustainable Minimum Parking Requirements Act of 2012). AB 904 would have set an upper limit on how much parking cities can require in transit-rich districts: no more than one space per dwelling unit or two spaces per 1,000 square feet of commercial space. The bill defined these districts as areas within a quarter mile of transit lines that run every 15 minutes or better. If passed it would have been a huge boon for both housing and transit.

There are good reasons to adopt this policy. Federal and state governments give cities billions of dollars every year to build and operate mass transit systems, yet most cities require ample parking everywhere on the assumption that nearly everyone will drive for almost every trip. Minimum parking requirements counteract all these transit investments.

For example, Los Angeles is building its Subway to the Sea under Wilshire Boulevard, which already boasts the city's most frequent bus service. Nevertheless, along parts of Wilshire the city requires at least 2.5 parking spaces for each dwelling unit, regardless of the number of rooms. Similarly, 20 public transit lines serve the UCLA campus near Wilshire Boulevard in Westwood, with 119 buses per hour arriving during the morning peak. Nevertheless, across the street from campus, Los Angeles requires 3.5 parking spaces for every apartment that contains more than four rooms. We have expensive housing for people but we want free parking for cars.

Also on Wilshire Boulevard, Beverly Hills requires 22 parking spaces per 1,000 square feet for restaurants, which means the parking lot is seven times larger than the restaurant it serves. Public transit in this over-parked environment resembles a rowboat in the desert.

Cities seem willing to pay any price and bear any burden to assure the survival of free parking. But do people really want free parking more than affordable housing, clean air, walkable neighborhoods, good urban design, and many other public goals? A city where everyone happily pays for everyone else's free parking is a fool's paradise.

A city where everyone happily pays for everyone else's free parking is a fool's paradise.

Why Cap Parking Requirements?

Minimum parking requirements create an asphalt wasteland that blights the environment. A powerful force field of free parking encourages everyone to drive everywhere. A cap on parking requirements in transit-rich neighborhoods can reduce this parking blight by making parking-light development feasible.

How will reducing off-street parking requirements affect development? Zhan Guo and Shuai Ren at New York University studied the results when London shifted from minimum parking requirements with no maximum, to maximum parking limits with no minimum. Comparing developments completed before and after the reform in 2004, they found that the parking supplied after the reform was only 52 percent of the previous minimum required and only 68 percent of the new maximum allowed. This result implies that the previous minimum was almost *double* the number of parking spaces that developers would have voluntarily provided. Guo and Ren concluded that removing the parking minimum caused 98 percent of the reduction in parking spaces, while imposing the maximum caused only 2 percent of the resulting reduction. Removing the minimum had a far greater effect than imposing a maximum.

Cities usually require or restrict parking without considering the middle ground of neither a minimum nor a maximum. This behavior recalls a Soviet maxim: "What is not required must be prohibited." AB 904, however, was something new. It would not have restricted parking but instead would have imposed a cap on minimum parking requirements, a far milder reform. A cap on how much parking cities can require will not limit the parking supply because developers can always provide more parking than the zoning requires if they think market demand justifies the cost.

There are precedents for placing limits on parking requirements. Oregon's Transportation Systems Plan requires local governments to amend their land-use and subdivision regulations to achieve a 10 percent reduction in the number of parking spaces per capita. The United Kingdom's transport policy guidelines for local planning specify that "plans should state maximum levels of parking for broad classes of development ... There should be no minimum standards for development, other than parking for disabled people." ➢

Like the automobile itself, parking is a good servant but a bad master.

Failure and Then Success in the Legislature

To my dismay, the California Chapter of the American Planning Association (APA) lobbied against AB 904, arguing that it "would restrict local agencies' ability to require parking in excess of statewide ratios for transit intensive areas unless the local agency makes certain findings and adopts an ordinance to opt out of the requirement."

City planners must, of course, take direction from elected officials, but the APA represents the planning profession, not cities. AB 904 gave the planning profession an opportunity to support a reform that would coordinate parking requirements with public transportation, but instead the California APA insisted that cities should retain full control over parking requirements, despite their poor stewardship.

AB 904 failed to pass in 2012 but was resurrected in a weaker form as AB 744 and was successful in 2015. AB 744 addresses the parking requirements for low-income housing within half a mile of a major transit stop. If a development is entirely composed of low-income rental housing units, California now caps the parking requirement at 0.5 spaces *per dwelling unit.* It also caps the parking requirement for a development that includes at least 20 percent low-income or 10 percent very low-income housing at 0.5 spaces *per bedroom.* Developers can of course provide more parking if they want to, but cities cannot require more parking unless they conduct a study that demonstrates a need.

Affordable housing advocates initially opposed AB 744 because it would have capped the parking requirements for *all* housing in transit-rich areas. Another California law (SB 1818) already reduces the parking requirements for developments that include some affordable units.

Reducing the parking requirements for all housing would therefore dilute the existing incentive to include affordable units in market-rate developments. Confining AB 744's parking reduction to affordable housing was therefore necessary to gain political support from the affordable housing advocates, even though a cap on parking requirements for *all* housing would increase the supply and reduce the price of housing without any subsidy.

Statewide caps on parking requirements may be difficult to impose in the face of the demand for local control in all land use decisions. Nevertheless, the California experience shows that a statewide cap can be feasible if it is linked to affordable housing. This link attracted political support from affordable housing advocates who know that parking requirements are a severe burden on housing development, and that reducing the parking requirements for affordable housing will increase its supply.

Without the support from affordable housing advocates, California's cap on parking requirements near transit would probably not have been enacted. Until more people recognize that parking requirements cause widespread damage, one way to increase political support for a cap on parking requirements is to use it as an incentive for building affordable housing. This approach, however, may then lead affordable housing advocates to oppose any general reduction in parking requirements even if it will make all housing more affordable.

An Arranged Marriage

Many believe that Americans freely chose their love affair with the car, but it was an arranged marriage. By recommending parking requirements in zoning ordinances, the planning profession was both a matchmaker and a leading member of the wedding party. But no one provided a good prenuptial agreement. Planners should now become marriage counselors or divorce lawyers where the relationship between people and cars no longer works well.

Like the automobile itself, parking is a good servant but a bad master. Parking should be friendly—easy to find, easy to use, and easy to pay for—but cities should not require or subsidize parking. Cities will look and work much better when markets rather than planners and politicians govern decisions about the number of parking spaces. Putting a cap on parking requirements is a good place to start. ◆

FURTHER READING

California Assembly Bill 744. 2015. "AB-744 Planning and Zoning: Density Bonuses."

Zhan Guo and Shuai Ren. 2013. "From Minimum to Maximum: Impact of the London Parking Reform on Residential Parking Supply from 2004 to 2010," *Urban Studies* 50(6): 1183–1200.

Letters about AB 904 from mayors, planning academics, planning practitioners, and the California Chapter of APA are available here: http://shoup.bol.ucla.edu/LettersAboutAssemblyBill904.pdf

Donald Shoup. 2015. "Putting a Cap on Parking Requirements," *Planning*, May: 28–30.

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Minus Minimums

Development Response to the Removal of Minimum Parking Requirements in Buffalo (NY)

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Minus Minimums

Development Response to the Removal of Minimum Parking Requirements in Buffalo (NY)

Daniel Baldwin Hess Jeffrey Rehler

ABSTRACT

Problem, research strategy, and findings: Cities today face considerable land use, environmental, and economic challenges resulting from policies prioritizing automobiles and requiring ample off-street parking. In an effort to influence travel behavior and reduce parking supply, Buffalo (NY) adopted the Green Code in 2017. This zoning code reform repealed minimum parking requirements citywide and provided a "natural experiment" to investigate effects of parking deregulation among 36 major developments in its first 2 years. Our research produced two key findings. First, 47% of major developments included fewer parking spaces than previously permissible, suggesting earlier minimum parking requirements may have been excessive. Second, mixed-use developments introduced 53% fewer parking spaces than would have been required by earlier minimum requirements as developers readily took advantage of the newfound possibility to include less off-street parking. Aggregate parking spaces among single-use projects exceeded the earlier minimum requirements, suggesting developers of such projects were less motivated to deviate from accepted practices in determining the parking supply for urban development.

Takeaway for practice: Eliminating parking minimums can reduce unnecessary parking supply and encourage development constrained by excessive minimum requirements. Land use, location, and transportation demand initiatives affect the quantity of off-street parking supplied in response to market conditions. Our findings suggest mixed-use developers are likely to take advantage of the ability to provide less parking in highly accessible locations. Though many developers quickly pivot to the newfound possibilities of providing fewer parking spaces, others continue to meet earlier requirements. Cities of all types stand to benefit from undoing constraining parking policies of the past and allowing developers to transform parking lots to "higher uses."

Keywords: form-based zoning, land use, minimum parking requirements, parking, parking deregulation

In the United States, planners and policymakers have become increasingly critical of automobile dependence in recent years. Land use, environmental, and economic concerns have fueled interest in encouraging travelers to consider non-automobile travel modes. Efforts to disincentivize automobile use reflect shifting perceptions regarding America's dominant travel mode—private automobiles—and amenities such as parking that were once widely considered community assets.

Despite interest in promoting alternatives to automobiles, interventions to encourage using competing modes have been largely unsuccessful. A key reason why shifting drivers to other travel modes (public transit, walking, biking) is difficult is that parking is plentiful and, in most cases, free (Shoup, 2017). Private automobiles remain an extremely convenient and underpriced mode of transportation because drivers do not bear the full cost of using and storing their vehicles (Shoup, 2017).

Vehicle storage is necessary for most private automobile trips. Because most parking in urban America is free, increasing costs and reducing parking quantities can produce various benefits: urban densification, pollution reductions, increasingly equitable transportation options, lower housing costs, economic development, and desirable pedestrian environments (Shoup, 2014). Despite these benefits, reducing the parking supply can be extremely challenging because Americans are accustomed to driving and parking. One tactic to restrict the supply involves reducing or removing minimum parking requirements (MPRs) common in municipal ordinances across the United States (Hess, 2017).

A 2018 *Planning* article by Sara Bronin detailed two citywide reforms to remove parking minimums from municipal zoning codes in Hartford (CT) and Buffalo (NY). Bronin characterized the elimination of MPRs as

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having potential to become "the single most impactful zoning regulatory reform of the 21st century" and advised planners to "keep a close eye on the impacts" in Hartford and Buffalo (Bronin, 2018, p. 9).

Large-scale parking reforms are a recent phenomenon. Scholarship on the results of repealing MPRs has, to date, been restricted in geographic scope (Antonson et al., 2017; Cutter & Franco, 2012; Gabbe, 2018; Manville, 2013; McCahill et al., 2014). Studies on the effects of eliminating MPRs are available for locations such as London (UK; Guo & Ren, 2013) and Gothenburg (Sweden; Antonson et al., 2017) but remain relatively scant for U.S. cities. Our research fills a gap in knowledge by investigating the actual results from a citywide "natural experiment" within the U.S. planning regulatory framework. Specifically, we sought to understand whether the shift to market-driven parking policy in Buffalo resulted in introducing fewer off-street parking spaces among major developments. We also investigated characteristics (such as land use and location) of developments including more, the same, or less parking than required by minimums in the preceding code.

Analyzing the first 2 years of the reform in Buffalo, we find 47% of projects earned major site plan approval with fewer parking spaces than mandated by previous MPRs. Developers of mixed-use projects in transit-rich locations took advantage of the newfound ability to provide fewer parking spaces. Mixed-use developments introduced 53% fewer parking spaces than mandated by preceding MPRs. At the same time, aggregate parking spaces among single-use residential, commercial, and civic projects exceeded previous MPRs.

In this study, we review the rise of minimum parking in the United States and our study site, Buffalo. We discuss the possibilities associated with repealing MPRs, review scholarly research associated with such reform, and detail our work in quantifying parking among major developments in the absence of minimum requirements. We conclude by exploring how eliminating MPRs can encourage mixed-use development styles constrained by excessive parking requirements, how response to such reform may vary among developers, and possibilities for practitioners working toward a more market-driven approach to parking in their municipality.

Background and Scholarly Literature

Minimum Parking Requirements

MPRs originated in the mid-20th century as the automobile rose to prominence and municipalities sought to reduce congestion (Willson, 2013). These zoning mechanisms limited the potential for parking spillover, a nuisance whereby high demand at one site leads to occupancy of nearby (and in many cases free) on-street parking spaces to the frustration of those at neighboring sites (Nichols, 2019; Shoup, 1999). In efforts to mitigate congestion and spillover, the adoption of MPRs led to a number of inefficiencies: parking lot proliferation, underpriced automobile storage, inability to share parking, and deprioritizing of non-automobile travel modes (walking, bicycling, public transport; Hess, 2001). MPRs can exacerbate sprawl and limit development potential if market or site conditions do not lend themselves to accommodating private automobiles (Willson, 2013).

Donald Shoup (1999, 2014, 2017) has found that parking prioritization spurs more driving and results in harmful consequences such as traffic congestion, air pollution, and sprawl. MPRs reduce accessibility, decrease sustainability, and produce undesirable economic returns as costs are passed along to consumers (including non-drivers) in the form of higher rents, higher prices of goods, and lower salaries (Willson, 2013). In light of negative externalities, cities such as San Francisco (CA) and Minneapolis (MN) have followed the lead of Buffalo and Hartford in eliminating parking minimums entirely (Nichols, 2019). Other U.S. cities—including Chicago (IL), Fargo (ND), New Orleans (LA), Pittsburgh (PA), Lexington (KY), Spokane (WA), and Santa Monica (CA)—have deregulated parking in key development districts (Nichols, 2019; Spivak, 2018). MPRs no longer apply to certain affordable housing developments in Seattle (WA), Portland (OR), and New York (NY; Spivak, 2018). In such places, parking reform can lower tax rates, revive business districts, decrease property vacancies, and allow development of fewer off-street parking spaces as property becomes available for other uses (Hess, 2017).

Parking Policy in Buffalo

The impacts of 1950s car culture, peaking population, and expansionary parking policies remain evident today in the overabundant supply of parking infrastructure in Buffalo (Hess, 2017). In the late 1950s, Buffalo city officials introduced MPRs to accommodate suburban commuters and maintain economic activity in the urban core (Bronin, 2018; Hess, 2017). Like other Great Lakes Rust Belt cities, Buffalo lost manufacturing jobs and experienced postindustrial decline in the latter half of the 20th century (Hess & Almeida, 2007). Unemployment, poverty, urban population loss, and regional suburbanization accompanied Buffalo's downward economic trajectory (Bronin, 2018; Hess, 2005; Katz, 2012). In the mid- to late 1900s, city officials continued to prioritize parking despite favorable conditions (high residential densities, mixed-use neighborhoods, and an established public transit network) for active and public transportation in many locations (Hess, 2017).

Following decades of decline, Buffalo is again attracting development interest. Economic development initiatives promote a strategic location for trade with Canada, legacy amenities and infrastructure, and emerging innovation sectors (research and development, advanced manufacturing, and clean energy; Katz, 2012). Recognizing a need for updates, city officials began re-evaluating outdated land use, zoning, and transportation policies. In 2017, Buffalo replaced a 1950s-era use-based approach with a new form-based zoning code, known as the Unified Development Ordinance or Green Code (City of Buffalo, n.d.).

A New Zoning Code Encourages Non-Automobile Travel

Buffalo eliminated off-street parking minimums on April 3, 2017, by enacting a form-based zoning code seeking to encourage walkability, promote mixed-use neighborhoods, and reverse suburban development patterns (The Public Staff, 2017). Prior to adopting the Green Code, Buffalo's last comprehensive changes to the city zoning code occurred in 1953 (City of Buffalo, n.d.). The reform made Buffalo the first U.S. city of its size to eliminate parking minimums in their entirety (Hess, 2018). The new approach allows developers to provide off-street parking quantities appropriate to their particular project constraints and community context. In Buffalo, municipal law no longer mandates parking lots of specific sizes, a policy that often results in excessive parking supply (Hess, 2017).

The adoption of the Green Code signified a shift to deprioritize automobiles and encourage equitable alternatives such as active transportation and transit-oriented development (TOD) in Buffalo. Article 8.2 of the Green Code introduced bicycle parking minimums; multiple-unit dwellings require one bicycle space per five beds with a minimum of 90% long-term bicycle spaces (City of Buffalo Mayor's Office of Strategic Planning, 2016). Article 5.1 of the Green Code includes a Metro Rail overlay zone that promotes light rail TOD via increased building height minimums, increased density requirements, and parking to the rear of buildings (City of Buffalo Mayor's Office of Strategic Planning, 2016). Article 8.4 of the Green Code introduced transportation demand management (TDM) plans as a means to establish modal share objectives for developments seeking major site plan approval (City of Buffalo Mayor's Office of Strategic Planning, 2016).

According to Article 8.4 of the Green Code, a TDM policy guide mandates strategies to "reduce single-occupancy vehicle trips, reduce vehicle miles travelled by site users, and promote transportation alternatives such as walking, cycling, ridesharing, and transit" (City of Buffalo Mayor's Office of Strategic Planning, 2016, p. 8-12). A TDM plan is required for "new construction of a principal building in excess of 5,000 square feet" and "substantial renovation of a principal building with a gross floor area of at least 50,000 square feet involving a change of use" (City of Buffalo Mayor's Office of Strategic Planning, 2016, p. 8-12). The Green Code does not require a TDM plan for single-unit dwellings, double-unit dwellings, or any project in a flex commercial, light industrial, or heavy industrial zone (City of Buffalo Mayor's Office of Strategic Planning, 2016).

Under Section 3.5 of the *TDM Policy Guide*, developments seeking major site plan approval must reduce accompanying travel and parking demand by applying TDM strategies from a list of options including share programs, employee incentives, and design amenities (City of Buffalo Mayor's Office of Strategic Planning, 2017). The TDM plan formalizes strategies the developer commits to implementing and quantifies off-street parking, shared parking arrangements, and bicycle storage (including short and long-term spaces) corresponding to the development (City of Buffalo Mayor's Office of Strategic Planning, 2017).

Potential Impacts on Development

Although the City of Buffalo intended for parking deregulation to spur real estate investment, some were skeptical (Epstein, 2018). As the urban core began to attract development and residents, certain developers anticipated parking shortages (or price increases) could make downtown less attractive for tenants, visitors, and businesses accustomed to automobile use (Epstein, 2018). Conversely, research has suggested MPRs constrain development in dense, centrally located neighborhoods with frequent transit service (Gabbe, 2018; Guthrie & Fan, 2016). Recognizing the potential for parking to create negative impacts, Buffalo city officials were wary of encouraging oversupply because they anticipated TOD, bicycle infrastructure upgrades, and disruptive technologies could make parking obsolete in the long term (Epstein, 2018). Scholars expect shared autonomous vehicles and on-demand mobility options (such as carshare and rideshare) to continue to disrupt personal transport and decrease off-street parking demand in urban areas (Greenblatt & Shaheen, 2015; Nichols, 2019).

Buffalo's future-oriented Green Code removed mandates for a minimum number of off-street parking spaces proportional to development size and type. Instead, according to Article 8.4, major site plan approval requires a project-specific TDM plan implementing strategies from a menu of options with implications for parking such as public transit pass subsidies, roadway improvements, shared parking, and carpooling programs (City of Buffalo Mayor's Office of Strategic

Planning, 2016). Developers can provide more or less parking than the modal share objective for their project (after accounting for TDM strategies); doing so by 10% or more requires written justification (City of Buffalo Mayor's Office of Strategic Planning, 2017). These new policies allow considerable deviation from earlier parking requirements, allowing the market to influence parking supply considerations. It is now legally possible for residential, commercial, and mixed-use projects to provide no off-street parking.

Contemporary literature suggests MPRs produce an oversupply, and that removing such requirements is likely to reduce parking excess (Cutter & Franco, 2012; Guo & Ren, 2013; McCahill et al., 2014; Shoup, 2017; Weinberger, 2014). In areas with too much parking, repealing mandatory minimums can allow developers to reap benefits at both micro and macro scales. With no minimums, developers are free of their legal obligation to provide an amenity that may not be of value to a given project. If multiple developments provide less parking, each can take advantage of an increasingly walkable and dense urban form (Hess, 2017).

Parking Reform as a Natural Experiment

The removal of MPRs in Buffalo is a natural experiment, providing a rare opportunity to evaluate initial impacts of a citywide parking reform. Our study adds to a substantial base of recent scholarly work that has addressed implications of MPRs on land use and value (Cutter & Franco, 2012), housing affordability and supply (Lehe, 2018; Manville, 2013), and resident parking perceptions and behavioral responses (Antonson et al., 2017). Studies focusing on TOD have suggested MPRs constrain developers of affordable and inexpensive housing (Gabbe, 2018; Guthrie & Fan, 2016). Guthrie and Fan (2016) find that developers perceive MPRs as barriers to TOD because they increase costs and decrease buildable land. Similarly, research has suggested parking minimums in central business districts inhibit development as artificially high thresholds necessitate substantial infrastructure and land commitments (Manville, 2013; McCahill et al., 2014). Manville's (2013) study of parking quantity and location mandates in downtown Los Angeles (CA) revealed that these regulations restrict choice and inhibit the offering of options such as unbundled and off-site parking.

Despite a considerable body of research on parking policy, few opportunities for studying quantifiable effects of citywide parking reform have presented themselves for analysis. One such study in London (UK) lends support to market-based approaches, finding a parking supply reduction of 49% in residential developments following removal of MPRs and implementation of maximum parking requirements (Li & Guo, 2014). An earlier study of parking reform in London found the removal of MPRs produced a 40% reduction in off-street supply among residential developments (Guo & Ren, 2013).

Given the uncertain nature of the Buffalo reform, we sought to understand initial outcomes of repealing MPRs related to parking provision and property development. We investigated major developments in the first 2 years under the Green Code and analyzed whether developers included the same, more, or less parking than previously allowable (less than 2 years earlier) under the preceding zoning code. We contribute to the growing knowledge base on U.S. parking reform with quantifiable, citywide results to inform scholars and practitioners about potential near-term outcomes of eliminating MPRs.

Research Strategy, Data, and Methods

Research Approach

Our research investigates the effects of a natural experiment in eliminating MPRs in Buffalo. We analyzed results among major developments in the initial 2-year period subsequent to adoption of the Green Code (April 2017 to April 2019). We compared quantities of off-street parking approved under the City of Buffalo's major site plan review process with MPRs that the same developments, as proposed, would have been required to meet under the previous code.

We used TDM plans from the City of Buffalo Office of Strategic Planning as our primary data sources (The City of Buffalo Planning Board, n.d.). Property owners or developers submit a TDM plan to obtain project approval from the City of Buffalo planning board under the major site plan review process. Major site plan review documents, including TDM plans, are publicly available from the City of Buffalo Office of Strategic Planning.

Data Set

We analyzed publicly available data from the City of Buffalo for development attributes such as parking, land use, and gross size. TDM data from the City of Buffalo planning board meeting minutes and correspondence with the City of Buffalo Office of Strategic Planning informed and contextualized our findings. Our data set consists of 36 TDM plans approved by the City of Buffalo planning board in the first 2 years of the Green Code. These plans include residential, commercial, civic, and mixed-use developments. We excluded development proposals for single-use industrial and surface parking because these uses did not require TDM plans for major site plan review.

We compared parking approved after the April 3, 2017, enactment of the Green Code with MPRs that would

have applied to identical projects submitted under the previous code (the latest version of which was in effect as of October 15, 2004; City of Buffalo Mayor's Office of Strategic Planning, 2004). We used development attributes (such as land use designation, size, and quantity of residential units) to compare parking approved under the Green Code with MPRs in the previous zoning code. As shown in Technical Appendix Table A-1, we calculated MPRs for residential developments at one parking space per unit, restaurants at one parking space per 150 ft^2 of gross floor area, and so on (City of Buffalo Mayor's Office of Strategic Planning, 2004).

We also contextualized the recent development impact of removing MPRs in Buffalo by examining parking development prior to the Green Code. By reviewing site plan documentation under the preceding code, we determined whether developers provided more, less, or the same amount of parking as the MPRs while those minimums were still in effect. Using a list from the City of Buffalo Office of Strategic Planning (personal communication, August 4, 2020), we examined off-street parking for 16 pre–Green Code developments that would require major site plan approval under the present code. We analyzed these comparable developments over a 5-month period before the enactment of the Green Code.

Limitations

We recognize limitations in generalizing our results elsewhere because we examined parking in Buffalo's unique social, economic, and geographic contexts. Furthermore, we note real estate market and regulatory conditions could influence applicability of our findings to other municipalities. Our research quantified initial results of the reform, but our 2-year time frame may be restrictive because the point at which developers respond to deregulation is unclear. Developers providing fewer parking spaces demonstrated response to the reform, but it is unknown whether those who provided the same amount were simply adhering to the earlier minimum standards or whether they considered the newly available possibility to provide less parking.

Our research relied on public records for projects seeking major site plan approval from the City of Buffalo planning board. We analyzed all 36 publicly available TDM plans at the time of our research and our analysis was limited to projects requiring such plans. Relying on TDM data, we omitted smaller developments (new construction less than 5,000 ft^2, single- or double-unit dwellings), renovations less than 50,000 ft^2 or with no change in use, and industrial sites from our analysis. We also omitted seven projects from this analysis because of unavailable or incomplete data (such as parking counts, land use, and square footage) to arrive at our final 36-development data set.

Analysis of parking provision prior to deregulation in Buffalo presented challenges because considerable changes to documentation and application requirements coincided with the introduction of the Green Code. The earlier code did not require major site plan approval or TDM plans with detailed parking information. As a result, our pre–Green Code analysis was limited to 16 developments that include data comparable to those for newer developments. Comparable data were available only for these select developments occurring within the 5 months directly before the Green Code. Project characteristics during this time frame likely differ from earlier periods when adoption and enactment of the new code and accompanying parking reform were not yet imminent.

Findings

Major development projects following parking deregulation in Buffalo vary in scope, represent a range of land uses, and facilitate site access via a variety of transportation accommodations (including parking). Figure 1 depicts the spatial arrangement of major developments in the city of Buffalo in the first 2 years of implementation of the Green Code. Figure 2 contrasts differences between the number of parking spaces approved under the Green Code and requirements of preceding MPRs. Additional attributes of each development are available in Technical Appendix Table A-2. Development numbers are consistent across figures and tables. For example, Development 1 is located in the central business district (Figure 1), provides 91% fewer parking spaces under the Green Code than required by previous MPRs (Figure 2), and has a gross size of 65,500 ft^2 (Technical Appendix Table A-2).

Parking Development Preceding the Green Code Reform

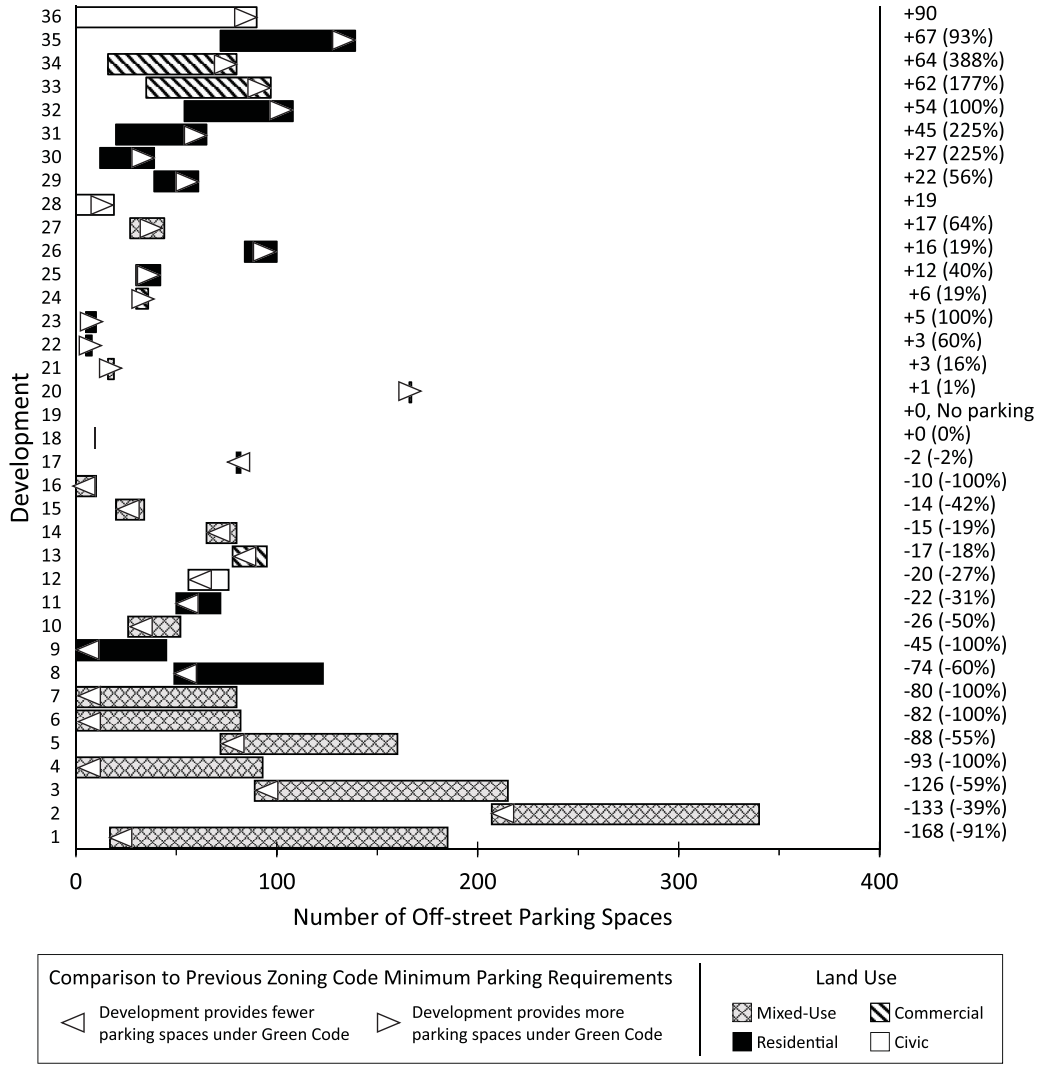
To provide context to parking developments after the repeal of MPRs in Buffalo, we also present information on developments preceding enactment of the zoning reform in Figure 3 and Technical Appendix Table A-3. As the April 2017 transition to repeal minimums approached, projects were approved with less parking than the minimums required. This suggests that parking variances became more common closer to the shift. In this 5-month window, we find the same number of developments (44%, or 7 projects) provided parking in excess of the minimum as those that provided less, whereas 13% (2 projects) introduced the same amount as the code required. Combined parking among the 16 developments was 22% (364) more spaces than the minimum requirement, and the average development

Note: Development numbers correspond to Figure 2 and refer to additional development attributes included in Table A-2 in the supplemental online material.

Figure 1. Spatial arrangement, parking supply, and land use of major developments in Buffalo (NY): First 2 years of minimum parking requirement repeal under the Green Code (April 2017 to April 2019).

provided 23% (23) more parking spaces above the minimum. The eight mixed-use developments preceding the Green Code introduced 21% (275) more aggregate parking spaces in excess of the MPRs, and the average mixed-use development provided 16% (34) above the minimum.

Following enactment of the Green Code, we compared parking associated with developments under



Note: Development numbers correspond to locations in Figure 1 and refer to additional development attributes included in Table A-2 in the supplemental online material.

Figure 2. Parking supplied by major developments: First 2 years of the Green Code (April 2017 to April 2019) compared with minimum parking requirements previously in effect (prior to April 2017).

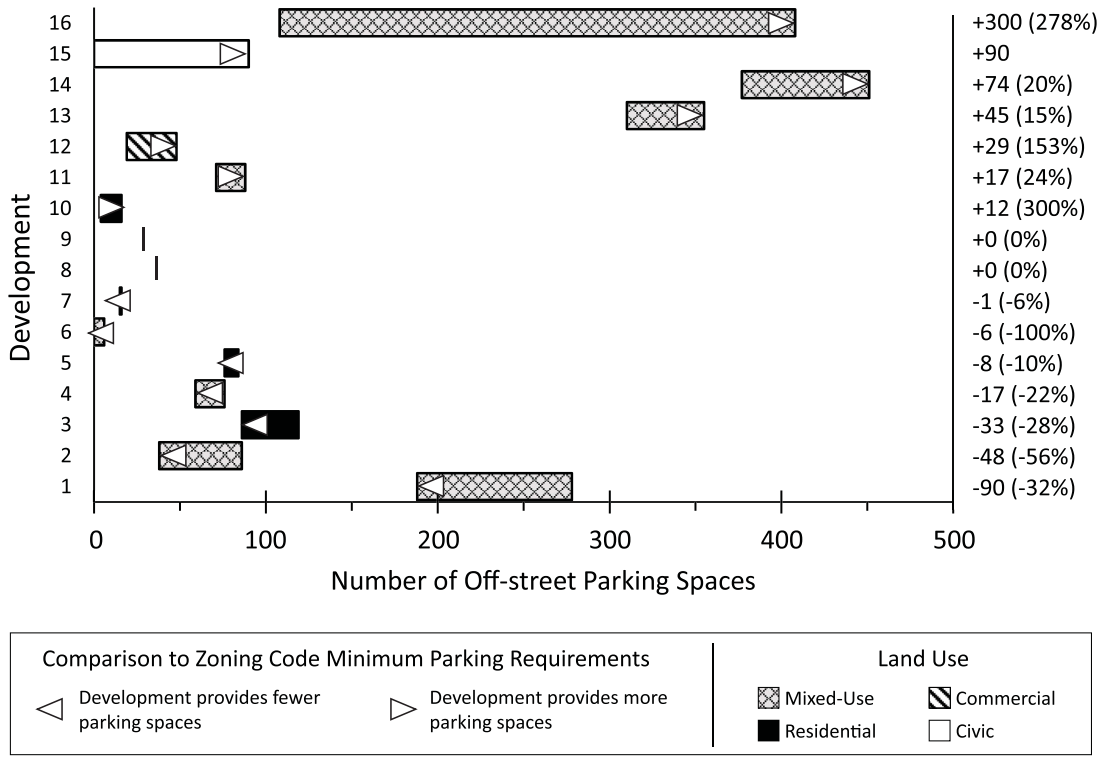
deregulation with MPRs that would have applied to the same projects prior to the code reform. Our study of developments in the first 2 years following the repeal of MPRs produced two key findings.

Parking Supply Reductions Among Mixed-Use Developments Emerge Following the Reform

As shown in Table 1, 21% (502) fewer off-street parking spaces accompanied 36 total developments in the first 2 years of the Green Code than would have been mandated by earlier MPRs. On average, the reform produced 21% (14) fewer parking spaces per development than required by minimums of the preceding zoning code. A paired *t*-test at the 95% confidence level revealed whether the provision of off-street parking under the Green Code was significantly different than earlier MPRs would produce. The mean difference in parking spaces ($M = -13.95$, $SD = 58.96$, $N = 36$) was not significantly less than 0, $t(35) = -1.42$; two-tailed $p = .165$, indicating that the code reform has thus far not achieved a statistically significant reduction in off-street parking overall.

The effect on parking supply following elimination of MPRs in Buffalo varied considerably by land use. Developers of mixed-use sites (39% of projects analyzed) took advantage of the reform, but single-use residential, commercial, and civic projects specified a parking supply in excess of that required by earlier minimum requirements. Table 1 categorizes developments by land use, highlighting equivalent MPRs in effect under the previous code and actual number of parking spaces introduced subsequent to deregulation under the Green Code.

A paired *t*-test at the 95% confidence level revealed significantly fewer off-street parking spaces among



Note: Development numbers correspond to additional development attributes included in Table A-3 in the supplemental online material.

Figure 3. Parking supplied by major developments: Five months preceding the Green Code (November 2016 to March 2017) compared with minimum parking requirements in effect during the same period.

Table 1. Development and parking supply characteristics by land use category (Green Code vs. previous minimum parking requirements).

	Developments				Off-street parking spaces				
Land use category	No.	Share of total (%)	No. units (residential)	Gross area, ft^2 (non-residential)	No. approved under Green Code	Previous MPRs	Green Code approved (as % of previous MPRs)	Total difference	% difference
Mixed use	14	39	1,034	313,193	726	1,539	47	−813	−53
Residential	14	39	566	19,100	760	652	117	+108	+17
Commercial	4	11	0	129,959	291	177	164	+114	+64
Civic	4	11	0	134,358	165	76	217	+89	+117
Mean					54	68	79	−14	−21
Total	36	100	1,600	596,610	1,942	2,444	79	−502	−21

mixed-use projects compared with minimum requirements under the preceding code. The mean difference in parking spaces ($M = -58.09$, $SD = 59.03$, $N = 14$) was significantly less than 0, $t(13) = -3.68$, two-tailed $p = .003$. In total, mixed-use projects after the reform provided 53% (813) fewer off-street parking spaces than the former zoning code required. These mixed-use projects all included a residential component in addition to retail or restaurant (6 featured both). Substantial office space was less common, but Developments 1 and 5 each added more than 45,000 ft^2. As shown in Figure 1, most mixed-use developments clustered along Main Street, a primary corridor with regular bus and light rail service (Niagara Frontier Transportation Authority, n.d.).

Figure 2 reveals most mixed-use developments provided fewer parking spaces under the Green Code than allowable under previous zoning. A notable exception exists at Development 27; this site intentionally

shared parking with Development 5 and yielded a net of 71 fewer parking spaces relative to MPRs in the preceding code. Of six projects that featured no off-street parking, four were mixed use, and each implemented shared parking as a TDM strategy. In total, these four projects added 265 fewer parking spaces than specified by MPRs existing before April 2017.

Despite accommodating mixed-use projects scaling back automobile storage, eliminating MPRs did not produce such impact among single-use developments in the first 2 years. Table 1 shows single-use residential developments (39% of projects analyzed) introduced parking spaces in excess of previous code minimums by 17% (108 spaces). Commercial and civic projects provided parking spaces beyond the earlier MPRs by 64% (114 spaces) and 117% (89 spaces), respectively. The previous zoning code did not specify minimums for civic uses (such as schools and community centers) and, as a result, we note a lack of reductions in parking among such uses.

Deregulation Facilitates Choice: Some Choose to Provide More Parking and Some Choose to Provide Less

In a conversation regarding this research, Chris Hawley (City of Buffalo Office of Strategic Planning; personal communication, February 21, 2019) used the phrase "the sky is not falling" to describe initial outcomes of repealing MPRs on development patterns and parking accommodations in Buffalo. This phrase is a particularly concise and effective way of communicating the response to a market-driven parking policy some feared would lead to severe changes in development patterns and parking availability. Despite the unprecedented scope of the reform, parking lots did not vanish from development proposals. Projects submitting TDM plans still provided 54 parking spaces on average in the first 2 years of the Green Code.

Among developments receiving major site plan approval since the Green Code's enactment, Table 2 shows 47% (17) included fewer off-street parking spaces than mandated by previous MPRs, whereas 53% (19) included the same number of parking spaces (or more). Collectively, developments providing fewer parking spaces reduced the total parking supply by 56% (1,014 spaces). On average, each development introduced 60 fewer parking spaces than previously required at minimum. The considerable range in differences (2–168 fewer parking spaces than previously required) suggests certain projects benefited substantially from the ability to provide less off-street parking following the code reform.

Indeed, as shown in Figure 2, three developments each provided 100 fewer parking spaces than earlier minimums required. Using shared parking, Development 1 provided 91% (168) fewer parking spaces than required by previous MPRs. Developments 2 and 3 introduced student housing along Main Street in the Green Code's C-M Metro Rail Overlay zone. According to Article 5.1 of the Green Code, this zone is "intended to facilitate an elevated level of urban intensity and transit orientation" (City of Buffalo Mayor's Office of Strategic Planning, 2016, p. 5-3). Private student housing developments at the scale of Developments 2 and 3 (more than 200 units each) were previously uncommon in Buffalo. The removal of MPRs and resulting allowance of 39% (Development 2) and 59% (Development 3) fewer parking spaces facilitated this new development type along a primary transit corridor.

A smaller scale example providing less parking (Development 16) rehabilitated a structure, retaining a historic façade in a transition to mixed use (10 apartments above a 1,500 ft^2 retail space; Epstein, 2017). Though the structure occupies nearly its entire parcel (making off-street parking unfeasible), it is close to a nearby light rail station and medical campus from which the owner hoped to attract residential tenants (Epstein, 2017). Though now possible under the Green Code, this project would require 10 off-street parking spaces under the previous code, severely limiting redevelopment possibilities despite favorable conditions for excluding vehicle storage.

As shown in Table 2, developments that supplied off-street parking at or in excess of earlier code minimums collectively provided 82% (512) more parking spaces than previously required. On average, each

Table 2. Development and parking supply characteristics by quantity of off-street spaces (Green Code vs. previous minimum parking requirements).

	Developments		Off-street parking spaces							
Off-street parking quantity (Green Code vs. previous MPRs)	No.	Share of total (%)	No. approved under Green Code	Previous MPRs	Green Code approved (as % of previous MPRs)	Min	Max	Mean	Total difference	% difference
Fewer	17	47	809	1,823	44	−168	−2	−60	−1,014	−56
The same or more	19	53	1,133	621	182	0	+90	+27	+512	+82
Total	36	100	1,942	2,444	79	−168	+90	−14	−502	−21

introduced 27 parking spaces more than earlier minimums. The range among developments providing the same or more parking was substantially smaller than the range of those providing less. Two developments showed no change in parking provision under the new code relative to previous requirements. The maximum quantity of parking spaces in excess of earlier MPRs was 90 spaces. Few reductions were apparent among single-use commercial and civic developments. Two commercial sites (Developments 33 and 34) provided off-street parking substantially in excess of previous MPRs (by 177% and 388%, respectively); both included office space.

The removal of parking minimums and requirement of TDM plans for projects seeking major site plan approval did not eliminate the possibility of including parking in development plans. These policies did, however, appear to nudge developers toward carefully considering parking without erecting insurmountable hurdles against new projects.

The Green Code encourages various possibilities for non-automobile travel that complement efforts to reduce parking burdens on new development. Automobile and bicycle share programs, transit pass subsidies, and enhancing public transit and bicycle facilities are among TDM strategies available to developers (City of Buffalo Mayor's Office of Strategic Planning, 2017). More than one-third of developments in this study used unbundled parking (selling parking spaces separately from building space to ensure only those using the amenity bear the direct cost) and one-quarter used shared parking arrangements (allowing multiple users, destinations, or land uses to use the same parking spaces). Overall, developments in our study provided both short- and long-term bicycle parking spaces in excess of new minimums specified in Article 8.2 of the Green Code (City of Buffalo Mayor's Office of Strategic Planning, 2016). Bicycle infrastructure was a particular priority; a 2016 update to the Buffalo Bicycle Master Plan called for implementing 300 miles of bikeways over a 10-year period (Olson et al., 2016).

Discussion and Implications

Removal of Minimum Parking Requirements

The parking reform in Buffalo does not rigidly require reductions in supply; however, it encourages alternatives to automobiles and allows developers to provide less off-street parking. The shift has eliminated inflexible minimums based on outdated development styles and land uses (the previously enforced code specified guidelines for bowling alleys, dance halls, and skating rinks but not mixed-use developments or daycare centers; City of Buffalo Mayor's Office of Strategic Planning, 2004). It also encourages parking management strategies, unbundling, and shared parking via a menu of TDM strategies (City of Buffalo Mayor's Office of Strategic Planning, 2017).

In the 5 months preceding the Green Code, our findings reveal developments introduced off-street parking spaces in excess of the minimum by 22% (364 spaces) in aggregate. This contrasts with the first 2 years of the reform, in which developments provided 21% (502) fewer parking spaces than that same minimum. These findings suggest that the parking reform may indeed contribute to off-street supply reductions, especially when taking into account projects were approved with off-street parking below the minimums prior to enactment of the new code. In total, mixed-use developments approved in the 5 months preceding the Green Code provided 21% (275) more parking spaces than required by MPRs in place at the time. This contrasts with our findings that mixed-use developments after the Green Code provided 53% (813) fewer parking spaces than those MPR thresholds in the first 2 years. This supports the notion that parking reform could spur reductions among mixed-use projects.

Approximately the same percentage of developments provided fewer off-street parking spaces relative to pre–April 2017 MPRs both before (44% fewer) and after (47% fewer) the reform. This may suggest the reform produced no effect, but conversations with officials from the City of Buffalo Office of Strategic Planning suggested our time frame of analysis preceding the code reform may be too limited (only 5 months) to capture the influence of MPRs on development patterns before the Green Code was imminent. According to an employee of the City of Buffalo Office of Strategic Planning, "getting a parking variance was not too common" under the preceding zoning code (personal communication, August 4, 2020). Although developers often sought variances for high-priority issues affecting project feasibility, parking reduction was a low priority in a city with plenty of developable land. It was also common for developers to avoid seeking variances for an issue that was frequently contentious among neighbors valuing a plentiful supply of off-street parking spaces. A shift in this mindset, particularly among mixed-use developers, appears to have taken place as site plan applications seeking to scale back parking preceded the repeal of MPRs.

The Green Code's removal of MPRs allows flexibility; developers can now match off-street parking to demand and the unique characteristics of a development project, site, and surrounding context. Excessive parking spaces are no longer mandatory, and many mixed-use projects with less parking than previously possible are now feasible. In contrast to expectations from our literature review suggesting MPRs produce oversupply (Cutter & Franco, 2012; Guo & Ren, 2013; McCahill et al., 2014; Shoup, 2017; Weinberger, 2014), the parking reform in Buffalo has not

yet resulted in the introduction of significantly fewer parking spaces than would have been produced under preceding requirements.

Varying Developer Responses

Given the unprecedented action taken to repeal MPRs in Buffalo, it is perhaps unsurprising to note varying developer responses. Awareness of the zoning reform was considerable due to a drafting and public engagement process in excess of 6 years (Hess, 2017). Developers facing parking constraints likely looked forward to the repeal of minimums; 47% took advantage of a newfound ability to provide less parking in the first 2 years. Those facing fewer parking-related development constraints may have been more hesitant to cut back supply due to an uncertain understanding of demand, instead opting for a "business as usual" approach. Marketability also influences financing decisions for developments; in Buffalo, tenants traditionally expect plentiful onsite parking (Hess, 2017).

Parking approaches to single-use projects differed from those of mixed use. Our findings regarding mixed-use parking reductions along Main Street (Buffalo's primary transit corridor) following the removal of MPRs are consistent with other research (Gabbe, 2018; Guthrie & Fan, 2016), suggesting MPRs constrain development in dense, centrally located neighborhoods with frequent transit service. We also find that the statistically significant parking reduction (mean of −58 parking spaces) among mixed-use projects aligns with findings (Cutter & Franco, 2012) suggesting MPRs are restrictive for retail uses (all mixed-use projects in our analysis featured retail or restaurant). Our findings regarding mixed-use developments suggest the previous version of the Buffalo zoning code featured excessive MPRs that likely contributed to significant reductions following the repeal. These findings suggest Euclidean zoning cannot adequately accommodate mixed-use trends toward shared parking, a finding of relevance to the large number of municipalities relying on such codes.

Under deregulation, each developer can choose how much parking to supply. Though some continue to provide the same or more parking spaces in Buffalo, MPRs no longer force this practice. The 47% of developments including fewer off-street parking spaces reflect an eagerness to deregulate amid favorable conditions for letting the market determine supply. Hess (2017) describes local developer viewpoints in advance of Buffalo's reform, noting their perceptions that MPRs unnecessarily increase development costs despite parking supply well in excess of demand. Should projects providing fewer parking spaces prove successful, they could become even more commonplace. Supplying less parking may align with future demand should on-demand and shared mobility trends prove to decrease personal automobile ownership, as suggested by Greenblatt and Shaheen (2015). Developers supplying excess off-street parking spaces in the short term may find opportunities to share with future developments choosing to provide less parking, a scenario not possible if MPRs set floors for parking quantities on each site.

Future Directions

The 2020 COVID-19 pandemic makes a compelling case for a market-driven approach to parking supply. In a July 2020 *Planning* article, Shima Hamidi and Keshia M. Pollack Porter examine the pandemic response of 20 large U.S. cities. The authors find most of these municipalities introduced street closures, fare-free public transit, and public transit service reductions in response to COVID-19. Short-term implications for off-street parking supply are likely, but the net effect has yet to become evident. Such measures may also persist and influence travel behavior and parking provision in the long term. Supply of off-street automobile parking could increase in response to greater demand in situations where available on-street parking reductions persist or public transit remains unappealing to the public. Alternatively, the off-street supply could contract with fewer people visiting worksites and retail spaces. If prioritization of infrastructure accommodating walking and biking persists, demand for supplying off-street parking spaces could wane. In any of these scenarios, deregulation leaves developers free to respond to these uncertain conditions in the manner best suiting their particular project.

Our research reveals a variety of possible directions for future study to inform planners, developers, and policymakers about the impacts of parking reform. Qualitative study of developer perceptions and decision making would likely increase understanding of site constraints and supply considerations. Our present study could provide a useful baseline for future longitudinal research as long-term implications of Buffalo's parking reform unfold. Insights into whether or not development approaches change as developers become familiar with new regulations would be informative to planners considering reform, as would understanding the timing of any such shift. Researchers in other municipalities may find our results provide a useful comparison with their own efforts to quantify parking reform results. Consistent with Gabbe (2018), we call on municipalities to increase accuracy, transparency, and accessibility of development data (including proposed and actual parking) to enhance understanding of the impacts of parking policy.

Conclusion

By removing MPRs citywide, the 2017 Green Code zoning reform took a bold approach to rethinking parking supply

and providing developers with choice in Buffalo. Analyzing the first 2 years of parking deregulation, we find 21% (502) fewer total off-street parking spaces (than previous minimums would require) in the absence of MPRs. This is not significantly different from what the supply preceding MPRs would produce. Single-use developments supplied parking at or above the minimum requirements of the previous zoning code, but mixed-use developers appeared to take advantage of the newfound flexibility by providing fewer parking spaces.

Mixed-use developments in transit-rich locations along primary commercial corridors tended to provide fewer off-street parking spaces relative to preceding MPRs. Removing MPRs allows densification of mixed-use development in areas where support already exists because access to non-automobile transportation reduces the risk of underproviding parking spaces. Well-connected corridors and the central core appear more likely to support dense, mixed-use developments with fewer parking spaces than peripheral sites.

Even in areas with plentiful transportation options, a comprehensive approach to parking management may be necessary to reduce parking supplies and encourage use of non-automobile modes. In Buffalo, TDM plans complemented the removal of MPRs by requiring developers to calculate parking demand, take steps to reduce that demand, and consider alternatives to automobile travel. Simply deregulating parking without taking such measures may prove insufficient to generate reduced demand, accommodate reductions in parking supply, and encourage affordable housing and mixed-use development.

In Buffalo, development has begun to reflect choice in the absence of MPRs. Relative to the pre-existing code, 47% of projects provided fewer off-street parking spaces, whereas 53% (mostly single-use projects) constructed the same number of parking spaces or more. Developments providing fewer parking spaces (17 in total) did so by 56% relative to preceding MPRs. Projects providing the same or more parking spaces (19 in total) did so by 82% relative to earlier minimums. In Buffalo and other cities pursuing parking deregulation, the removal of minimums allows flexibility to pursue development possibilities without the burden of supplying unnecessary parking. Those seeking to develop at lower cost or construct onsite configurations where MPRs limit project feasibility stand to benefit from repealing minimums.

Time will tell whether preference skews away from automobile prioritization and excess provision of off-street parking and whether trends toward walkability and TOD persist in Buffalo and elsewhere. In the absence of MPRs, off-street parking lots can transform into parks, shops, workplaces, and residences. Conversion of excess off-street parking spaces to such "higher uses" benefits not only municipalities such as Buffalo looking to introduce a denser (and more walkable) urban form but also highly urbanized areas where developable land is limited. In Buffalo, the early response by developers to eliminating MPRs suggests promise, but opportunity abounds to reduce excess parking.

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SUPPLEMENTAL MATERIAL

Supplemental data for this article can be found on the publisher's website.

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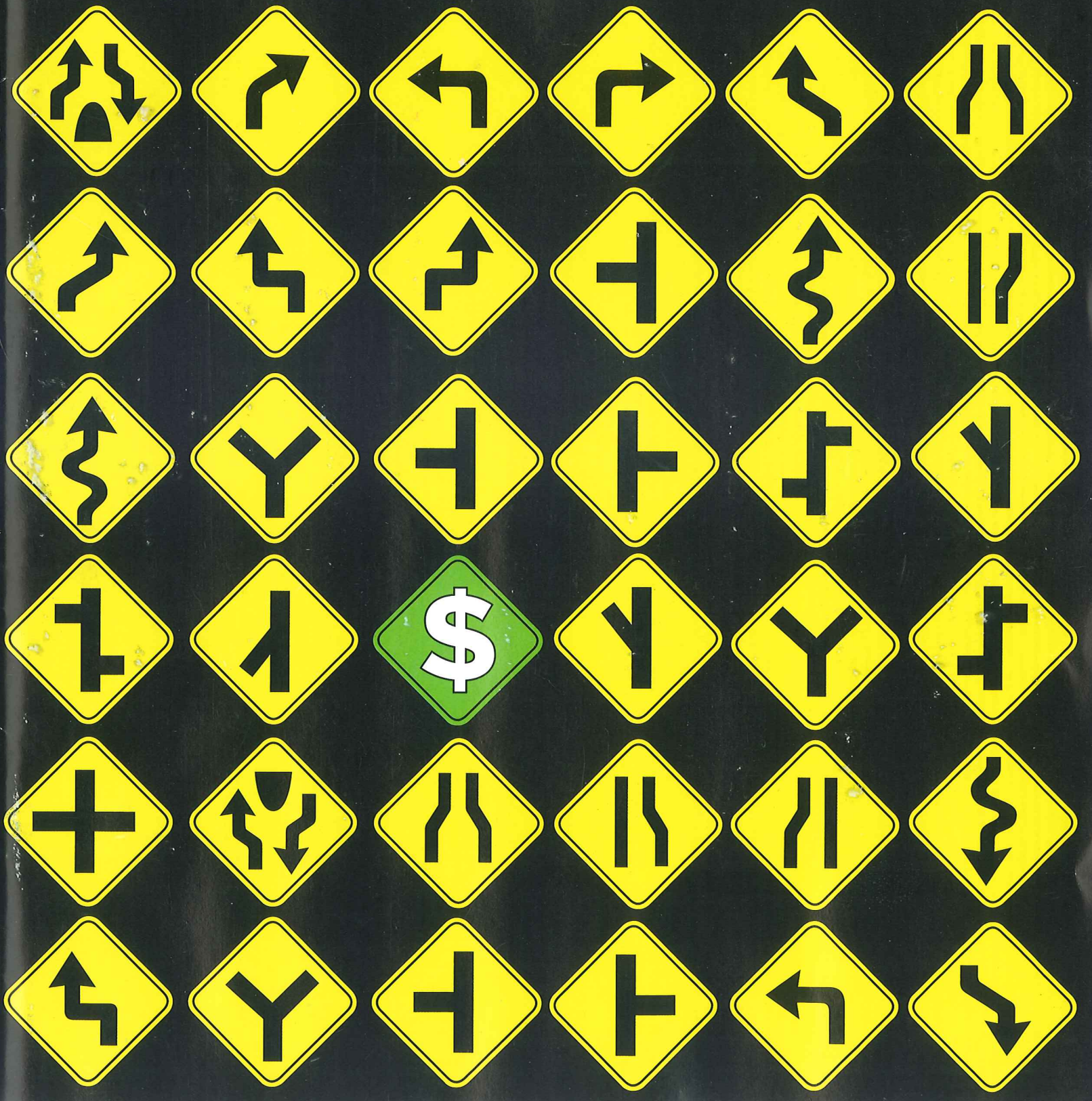


Putting a Cap on Parking Requirements

A way to make cities function better. By **DONALD SHOUP, FAICP**

Suppose the automobile and oil industries have asked you to devise planning policies that will increase the demand for cars and fuel. Consider three policies that will make cars essential for most trips. First, segregating land uses (housing here, jobs there, shopping somewhere else) will increase travel demand. Second, limiting density will spread the city and increase travel demand. Third, minimum parking requirements will ensure ample free parking almost everywhere, making cars the default way to travel.

American cities have unwisely embraced each of these car-friendly policies, luring people into cars for 87 percent of all their daily trips. Zoning ordinances that segregate land uses, limit density, and require lots of parking create drivable cities but prohibit walkable neighborhoods. Urban historians often say that cars have changed the city, but public policies have also changed the city to favor cars.

Minimum parking requirements are particularly ill-advised. In my book *The High Cost of Free Parking*, I argued that parking requirements subsidize cars, increase traffic congestion and carbon emissions, pollute the air and water, encourage sprawl, raise housing costs, degrade urban design, reduce walkability, exclude poor people, and damage the economy. To my knowledge, no one has argued that parking requirements do not have these harmful effects. Instead, a flood of recent research has shown that parking requirements do have these effects.

The high cost

Planners are put in a difficult position when asked to set parking requirements in zoning ordinances, largely because they do not know the parking demand at every site, or how much the parking spaces cost, or how the requirements increase the cost of development. Nevertheless, cities have managed to set parking requirements for hundreds of land uses in thousands of cities—the Ten Thousand Commandments for off-street parking.

Not knowing how much required parking spaces cost, planners cannot know how much the parking requirements increase the cost of housing. Small, spartan apartments cost much less to build than large, luxury apartments, but their parking spaces cost the same. Because many cities require the same number of spaces for all housing, the cost of required parking can consume the entire subsidy intended for affordable housing.

Minimum parking requirements resemble an Affordable Parking Act. They make parking more affordable by raising the cost of housing and everything else. Using data on the cost of constructing parking spaces and shopping centers, I estimated that the parking requirement of four spaces per 1,000 square feet for a shopping center in Los Angeles increases the cost of building a shopping center by 93 percent if the parking is underground and by 67 percent if the parking is in an aboveground structure.

This cost increase is passed on to all shoppers. Parking requirements raise the price of food for people who are too poor to own a car to ensure that richer people can park free when they drive to a grocery store.

The median is the message

A single parking space can cost far more than the entire net worth of many American families. In recent research, I estimated that the average cost per space for parking structures in the U.S. is about $24,000 for aboveground parking and $34,000 for underground parking. We can compare the cost of a parking space with the net worth of U.S. households (the value of all assets minus all debts). In 2011, this median net worth was $68,828 for all U.S. households, $7,683 for Hispanic households and $6,314 for black households.

Thus one underground parking space can cost five times more than the median net worth for all black households in the country. Nevertheless, cities require several parking spaces (at home, work, shopping, recreation, churches, schools, and many other places) for every household.

Many families have a negative net worth because their debts exceed their assets. Eighteen percent of all households, 29 percent of Hispanic households, and 33 percent of black households had zero or negative net worth in 2011. The only way these families can take advantage of all the parking cities require is to go further into debt to buy a car, which they must then support, often by financing it at a high subprime interest rate on a car loan.

In other words, cities require parking for every building without noticing the high cost of the required spaces or the burden placed on families who have little or no wealth.

Time for reform

Perhaps because of the growing doubts about minimum parking requirements, a few cities have begun to backpedal, at least in their downtowns. They recognize that parking requirements prevent infill redevelopment on small lots, where it is difficult and costly to fit both a new building and the required parking. And they see that parking requirements prevent new uses when older buildings lack the parking spaces required for those new uses.

'A city can be friendly to people or it can be friendly to cars, but it can't be both.'

—ENRIQUE PEÑALOSA, FORMER MAYOR OF BOGOTA, COLOMBIA

According to recent newspaper articles, many cities have reduced or removed their parking requirements. Some of the reasons: "to promote the creation of downtown apartments" (Greenfield, Massachusetts), "to see more affordable housing" (Miami), "to meet the needs of smaller businesses" (Muskegon, Michigan), "to give business owners more flexibility while creating a vibrant downtown" (Sandpoint, Idaho), and "to prevent ugly, auto-oriented townhouses" (Seattle).

Given this policy momentum, I thought the time to reform parking requirements in California had arrived when the legislature considered Assembly Bill 904 (the Sustainable Minimum Parking Requirements Act of 2012). AB 904 would have set an upper limit on how much parking cities can require in transit-rich districts: no more than one space per dwelling unit or two spaces per 1,000 square feet of commercial space. The bill defined these districts as areas within a quarter-mile of transit lines that run every 15 minutes or better.

AB 904 would limit how much parking cities can require, but it would not limit the parking supply. Developers could provide more than the required parking if they thought the demand justified the cost.

Why would a state want to adopt this policy? Federal and state governments give cities billions of dollars every year to build and operate mass transit systems, yet most cities require ample parking on the assumption that almost everyone will drive almost everywhere, even where public transit is available.

Twenty public transit lines serve the UCLA campus in Westwood, with 119 buses per hour arriving during the morning peak (7 to 9 a.m.). Nevertheless, across the street from campus, Los Angeles requires 3.5 parking spaces for every apartment that contains more than four rooms.

Los Angeles is building its Subway to the Sea under Wilshire Boulevard, which already boasts the city's most frequent bus service. Nevertheless, along parts of Wilshire the city requires at least 2.5 parking spaces for each dwelling unit, regardless of the number of rooms.

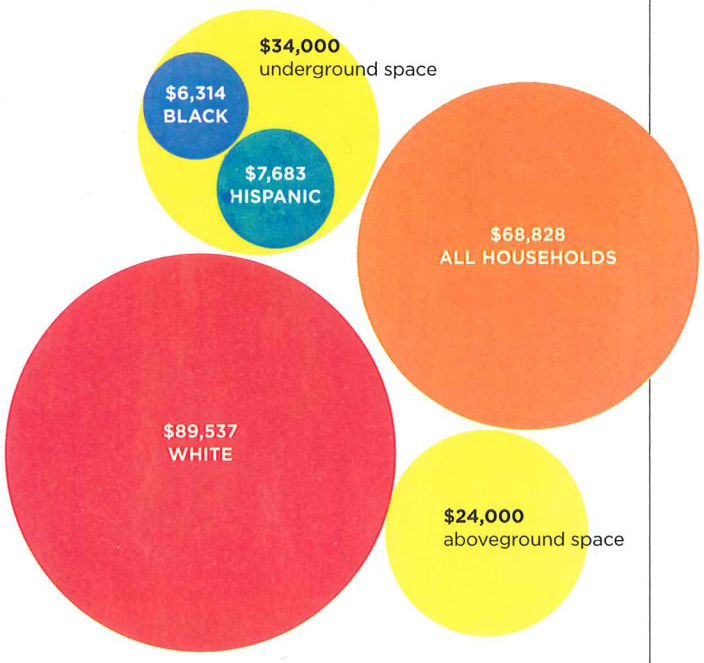
Also on Wilshire Boulevard, Beverly Hills requires 22 parking spaces per 1,000 square feet for restaurants, which means the parking lot is seven times larger than the restaurant. Public transit in this parking environment resembles a rowboat in the desert.

Why limit parking requirements?

The rationale for a limit on parking requirements in transit-rich districts is the same as the rationale for most city planning: The uncoordinated actions of many individuals can add up to a collective result that most people dislike. In this case, minimum parking requirements create an asphalt wasteland that blights the environment and compels people to drive. Limits on the parking requirements in transit-rich neighborhoods can reduce this blight by making redevelopment more feasible near transit stations.

Parking inequity

The cost of one structured parking space far exceeds the median net worth of minority households.



SOURCES: U.S. CENSUS BUREAU, NET WORTH AND ASSET OWNERSHIP, 2011; DONALD SHOUP, IN *PARKING: ISSUES AND POLICIES*, 2014; GRAPHIC BY JOAN CAIRNEY

How will reducing off-street parking requirements affect development? Zhan Guo and Shuai Ren at New York University studied the results when in 2004 London shifted from minimum parking requirements with no maximum to maximum parking limits with no minimum. Comparing developments completed before and after the reform, they found that the parking supplied after the reform was only 68 percent of the maximum allowed and only 52 percent of the previous minimum required.

This result implies that the previous parking minimum was almost *double* the number of parking spaces that developers would have voluntarily provided. The researchers concluded that removing the parking minimum caused 98 percent of the reduction in parking spaces, while imposing the maximum caused only two percent of the reduction. Removing the minimum was far more important than imposing a maximum.

Cities usually require or restrict parking without considering the middle ground of neither a minimum nor a maximum. This

behavior recalls a Soviet maxim: "What is not required must be prohibited." AB 904, however, was something new. It did not restrict parking but simply imposed a cap on minimum parking requirements, a far milder reform.

Aided by lobbying from the California Chapter of APA, opponents succeeded in defeating AB 904 in the legislature, but it has since been resurrected and revised, and will be reintroduced as a new bill in the next session.

There have been precedents for statewide limits on parking requirements. Oregon's *Transportation Systems Plan* requires local governments to amend their land-use and subdivision regulations to achieve a 10 percent reduction in the number of parking spaces per capita. The United Kingdom's transport policy guidelines for local planning specify that "plans should state maximum levels of parking for broad classes of development. . . . There should be no minimum standards for development, other than parking for disabled people."

These attempts to take state and national concerns into account suggest that, when left to their own devices, local governments require too much parking.

An arranged marriage

Many people believe that America freely chose its love affair with the car, but I think there was an arranged marriage. By recommending minimum parking requirements in zoning ordinances, the planning profession was both a matchmaker and a leading member of the wedding party.

Unfortunately, no one provided a good prenuptial agreement. Planners can now become marriage counselors or divorce lawyers where the relationship between people and cars no longer works well. Putting a cap on parking requirements is a good place to start. ■

Donald Shoup is a distinguished professor of urban planning at the University of California, Los Angeles, and the author of *The High Cost of Free Parking*, published in paperback by APA's Planners Press in 2011. He will retire later this year, and UCLA is launching a scholarship in his name. Details are at shoupista.com.

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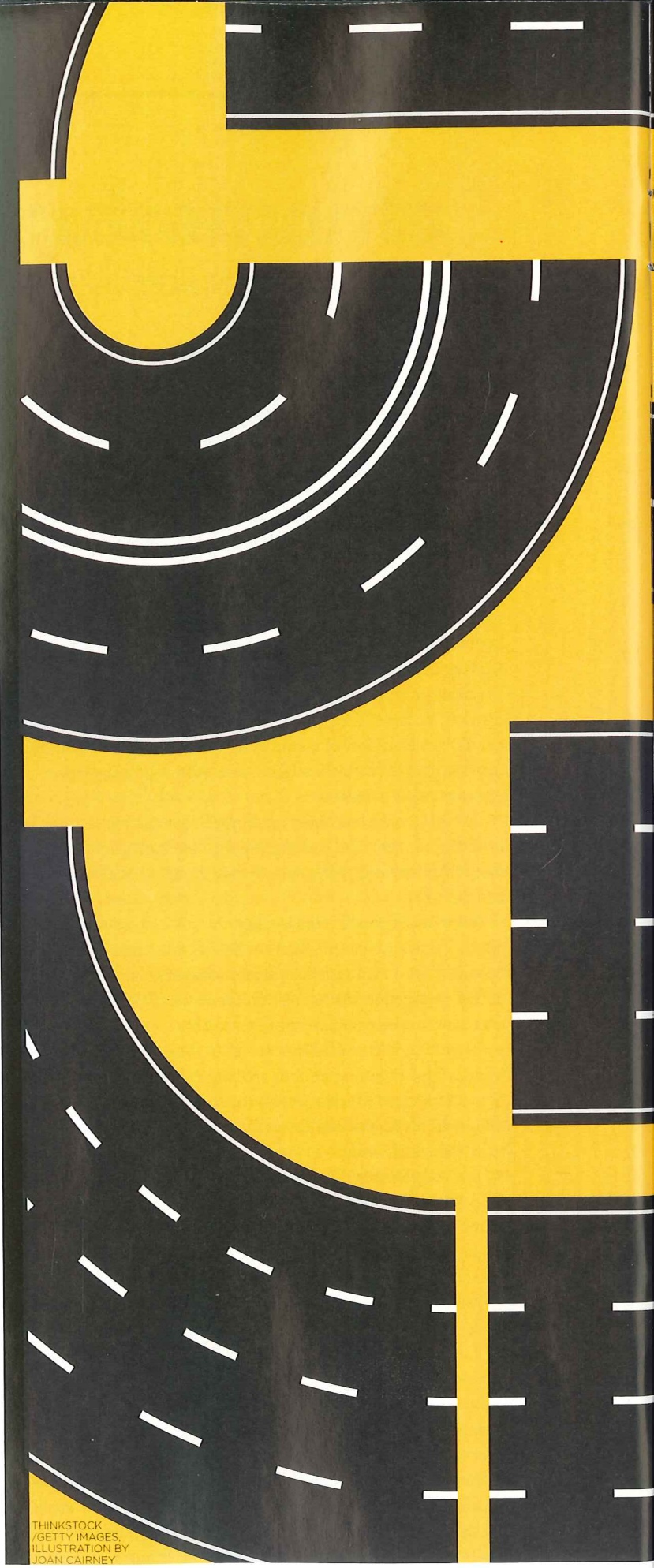

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PRACTICE PARKING REFORM

The Pseudoscience of Parking Requirements

Donald Shoup, FAICP

At the dawn of the automobile age, suppose Henry Ford and John D. Rockefeller had asked how city planners could increase the demand for cars and gasoline. Consider three options. First, divide the city into separate zones (housing here, jobs there, shopping somewhere else) to create travel between the zones. Second, limit density to spread everything apart and further increase travel. Third, require ample off-street parking everywhere so cars will be the easiest and cheapest way to travel.

American cities have unwisely adopted these three car-friendly policies. Separated land uses, low density, and ample free parking create drivable cities but prevent walkable neighborhoods. Although city planners did not intend to enrich the automobile and oil industries, their plans have shaped our cities to suit our cars.

Parking requirements are particularly ill-advised because they directly subsidize cars. We drive to one place to do one thing and then to another place to do another thing and then drive a long way back home, parking free everywhere. In *The High Cost of Free Parking*, published by the American Planning Association in 2005, I argued that parking requirements increase traffic congestion, pollute the air, encourage sprawl, raise housing costs, degrade urban design, prevent walkability, damage the economy, and penalize everyone who cannot afford a car. Since then, to my knowledge, no member of the planning profession has argued that parking requirements do not cause these harmful effects. Instead, a flood of recent research has shown that parking requirements are poisoning our cities with too much parking.

Despite all the harm off-street parking requirements cause, they are almost an established religion in zoning practice. One should not criticize anyone else's religion, but I'm a protestant when it comes to parking requirements. And I believe zoning needs a reformation.

THREE PARKING REFORMS

Reform is difficult because parking requirements do not exist without a reason. If on-street parking is free, removing off-street parking requirements will overcrowd the on-street parking and everyone will complain. Therefore, to distill 800 pages of *The High Cost of Free Parking* into three bullet points, I recommended three parking reforms that can improve cities, the economy, and the environment:

- **Remove off-street parking requirements.** Developers and businesses can then decide how many parking spaces to provide for their customers.
- **Charge the right prices for on-street parking.** The right prices are the lowest prices that will leave one or two open spaces on each block, so there will be no parking shortages. Prices will balance the demand and supply for on-street space.
- **Spend the parking revenue to improve public services on the metered streets.** If everybody sees their meter money at work, the new public services can make demand-based prices for on-street parking politically popular.

Each of these three policies supports the other two. Spending the meter revenue to improve neighborhood public services can create political support to charge the right prices for curb parking. If cities charge the right prices to produce one or two open spaces on every block, no one can say there is a shortage of curb parking. If there is no shortage of curb parking, cities can then remove their off-street parking requirements. Finally, removing off-street parking requirements will increase the demand for curb parking, which will increase the revenue to pay for public services.

THE MOST EMOTIONAL TOPIC IN TRANSPORTATION

Everyone wants to park free, and most people consider parking a personal issue, not a policy problem. Rational people quickly become emotional about parking, and staunch conservatives turn into ardent communists. Thinking about parking seems to take place in the reptilian cortex, the most primitive part of the brain responsible for snap judgments about urgent fight-or-flight issues, such as how to avoid being eaten. The reptilian cortex is said to govern instinctive behavior like aggression, territoriality, and ritual display, which all play a role in parking.

Parking clouds people's minds, shifting analytic faculties to a lower level. Some strongly support market prices—except for parking. Some strongly oppose subsidies—except for parking. Some abhor planning regulations—except for parking. Some insist on rigorous data collection and statistical tests—except for parking. This parking exceptionalism has impoverished thinking about parking policies, and ample free parking is seen as a goal that planning should produce. If drivers paid the full cost of their parking, it would seem too expensive, so we expect someone else to pay for it. But a city where everyone happily pays for everyone else's free parking is a fool's paradise.

Few people are interested in parking itself, but parking strongly affects issues people do care strongly about, such as affordable housing, climate change, economic development, public transportation, traffic congestion, and urban design. For example, parking requirements reduce the supply and increase the price of housing. Parking subsidies lure people into cars from public transportation, bicycles, or their own two feet. Cruising for free curb parking congests roads, pollutes the air, and adds greenhouse gases. Do people really want a drive-in dystopia more than they want affordable housing, clean air, walkable neighborhoods, good urban design, and a sustainable planet?

Reforms in planning for parking may be the cheapest, quickest, and most politically feasible way to achieve many social, economic, and environmental goals.

THE EFFECTS OF PARKING REQUIREMENTS

Cities have parking requirements for every art gallery, bowling alley, dance hall, fitness club, hardware store, movie theater, night club, pet store, tavern, and zoo without knowing the demand for parking at any of

them. Despite a lack of theory and data, planners set parking requirements for hundreds of land uses in hundreds of cities—the 10,000 commandments of planning for parking. Planners have adopted a veneer of professional language to justify the practice, but planning for parking is learned only on the job and it is more a political activity than a professional skill.

Consider what planners do not know when they set parking requirements:

- How much the required parking spaces cost
- How much drivers are willing to pay for parking
- How parking requirements increase the price of everything except parking
- How parking requirements affect architecture and urban design
- How parking requirements affect travel choices and traffic congestion
- How parking requirements affect air pollution, fuel consumption, and CO_2 emissions

Stuart Cohen, TransForm

Figure 1. An office park on the border of Milpitas and San Jose, California.

The High Cost of Parking Requirements

Cost is an especially important unknown. A recent study found that the parking spaces required for shopping centers in Los Angeles increase the cost of building a shopping center by 67 percent if the parking is in an aboveground structure and by 93 percent if the parking is underground (Shoup 2014). Retailers pass this high cost on to all shoppers, regardless of how they travel. People who cannot afford a car pay more for their groceries so richer people can park free when they drive to the store.

Without knowing how much the required parking spaces cost to build, planners cannot know how parking requirements increase the cost of housing. Small, spartan apartments cost less to build than large, luxury apartments, but their parking spaces cost the same. Because many cities require the same number of spaces for every apartment regardless of its size or quality, the required parking disproportionately increases the cost of low-income housing. One study found that minimum parking requirements raise housing costs by 13 percent for families without cars (Gabbe and Pierce 2017).

Drivers pay for their cars, fuel, tires, maintenance, repairs, insurance, and registration fees, but they usually don't pay for parking. Who does pay for the parking? Everyone, including people who cannot afford a car. All of life's necessities cost more in order to provide free parking.

America is a free country, and many people seem to think that means parking should be free. Parking requirements enable everyone to park free at everyone else's expense, and no one knows that anyone is paying anything. Parking is free, however, only because everything else is more expensive. Parking requirements are well-intentioned, but good intentions do not guarantee good results or mitigate unintended harm.

The required parking takes up a lot of space. Parking lots typically have about 330 square feet per space. Because there are at least three off-street parking spaces per car in the United States, there are at least 990 square feet of off-street parking space per car. In comparison, there are about 800 square feet of housing space per person in the United States. The area of off-street parking per car is thus larger than the area of housing per human.

In astronomy, dark energy is a force that permeates space and causes the universe to expand. Similarly, in urban planning, parking requirements are a force that causes cities to expand. The higher the parking requirements, the stronger the dark energy that spreads cities out and rips them apart. Typically, the process of setting the parking requirements is closer to astrology than astronomy.

Parking Requirements in Practice

When I am invited speak in a city, I start with an aerial view of a site in the city with too much parking, such as this photo of an office park in San Jose, California (Figure 1). It looks like a giant parking lot with a few buildings.

I then show a page from the city's parking requirements, which are so precise and so specific for so many land uses that most people probably assume planners carefully study parking (Table 1). Instead, planners are winging it. Planners are not oracles who can divine the demand for parking. I have never met a city planner who could explain why any parking requirement should not be higher or lower. To set parking requirements, planners usually take instructions from elected officials, copy other cities' parking requirements, or rely on unreliable surveys. Parking requirements are closer to sorcery than to science.

Next, I show the size of the parking lots resulting from the city's parking

TABLE 1. SELECT PARKING REQUIREMENTS FOR "ENTERTAINMENT AND RECREATION" USES IN SAN JOSE, CALIFORNIA

Use	Vehicle Parking Required
Arcade, amusement game	1 per 200 sq. ft. of floor area
Batting cages	1 per station, plus 1 per employee
Bowling establishment	7 per lane
Driving range	1 per tee, plus 1 per employee
Golf course	8 per golf hole, plus 1 per employee
Health club, gymnasium	1 per 80 sq. ft. recreational space
Miniature golf	1.25 per tee, plus 1 per employee
Performing arts rehearsal space	1 per 250 sq. ft. of floor area
Poolroom/billiards establishment	1 per 200 sq. ft. of floor area
Private club or lodge	1 per 4 fixed seats on the premises, or 1 per 6 linear feet of seating, plus 1 per 200 square feet of area without seating but designed for meeting or assembly by guests, plus 1 per 500 sq. ft. of outdoor area developed for recreational purposes
Recreation, commercial (indoor)	1 per 80 sq. ft. of recreational area
Recreation, commercial (outdoor)	20 per acre of site
Skating rink	1 per 50 sq. ft. of floor area
Swim and tennis club	1 per 500 sq. ft. of recreation area

requirements. For many land uses, the parking lots are bigger than the buildings they serve (Figure 2). There is more space for parking than for people. For example, San Jose, California, requires a restaurant to provide a parking lot that is more than eight times the size of the restaurant itself. The requirements provide parking everywhere anyone wants to go, but they also create places where few people want to be.

Most people think parking behaves like a liquid. If the parking supply is squeezed in one place, cars will park somewhere else. But parking behaves more like a gas. The number of cars expands to fill the available space, and more parking leads to more cars. Nevertheless, planners usually assume that cars and people come in fixed proportions, and they often require parking in proportion to people: per beautician, dentist, mechanic, nun, student, teacher, or tennis player. If parking were priced to cover its cost, people would own fewer cars and drive less.

Parking requirements are not only ridiculous but also dangerous. They make cities friendly to cars but not to people—drivable but not walkable. As Jane Jacobs wrote, "The more downtown is broken up and interspersed with parking lots and garages, the duller and deader it becomes, and there is nothing more repellent than a dead downtown." We want more out of our streets than traffic and free parking. We also want safety, health, walkability, prosperity, and pleasure.

The Unequal Burden of Parking Requirements

Cities require parking for every building without considering how the required spaces place a heavy burden on poor people. A single parking space, however, can cost more than the net worth of many U.S. households. One study found that in 2015 the average construction cost (excluding land cost) for parking structures was about $24,000 per space for aboveground parking and $34,000 per space for underground parking.

By comparison, the U.S. Census of Wealth and Asset Ownership in 2015 found that the median net worth (the value of assets minus debts) was $110,500 for white households, $19,990 for Hispanic households and $12,780 for black households. One space in a parking structure, therefore, costs more than the entire net worth of more than half of all Hispanic and black households in the country.

Free curb parking and off-street parking requirements have spread the city out so that most people need a car to get a job, go to school, and shop. In a misguided attempt to provide free parking for everyone, cities encourage poor people to buy cars they can ill afford, often financing them by subprime loans at high interest rates. Free parking has the veneer of equality, but it increases inequality. It is enormously wasteful and grossly unfair.

Assumptions and Parking Requirements

Parking requirements resemble what engineers call a "kludge"—an awkward but temporarily effective solution to a problem, with many moving parts that are clumsy, inefficient, hard to understand, and expensive to maintain. Off-street parking requirements are a kludge designed to prevent a shortage of free on-street parking. Parking requirements are superficially plausible but fundamentally wrong.

Parking requirements are like barnacles on a ship, accumulating one at a time and slowing the ship's progress. They have severed the link between the cost of providing parking and the price that drivers pay for it. They increase the demand for cars, and when citizens object to the resulting traffic congestion, cities respond by restricting development to reduce traffic. That is, cities require parking and then limit the density of people to limit the density of cars. Free parking has become the arbiter of urban form, and cars have replaced people as zoning's real density concern.

Parking requirements create many disputes about how many parking spaces a building "needs," with each side making solemn claims backed by dubious evidence. Consider the opposite approaches in the Los Angeles and San Francisco central business districts. For a concert hall downtown, Los Angeles requires, as a minimum, 50 times more parking spaces than San Francisco allows as its maximum. This difference helps to explain why downtown San Francisco is much more exciting than downtown Los Angeles.

If physicians in one city prescribed bloodletting and physicians in another city prescribed blood transfusion to treat the same disease, everybody would demand to know what is going on. Nobody notices when Los Angles requires parking and San Francisco restricts it. Ultimately, minimum parking requirements increase traffic

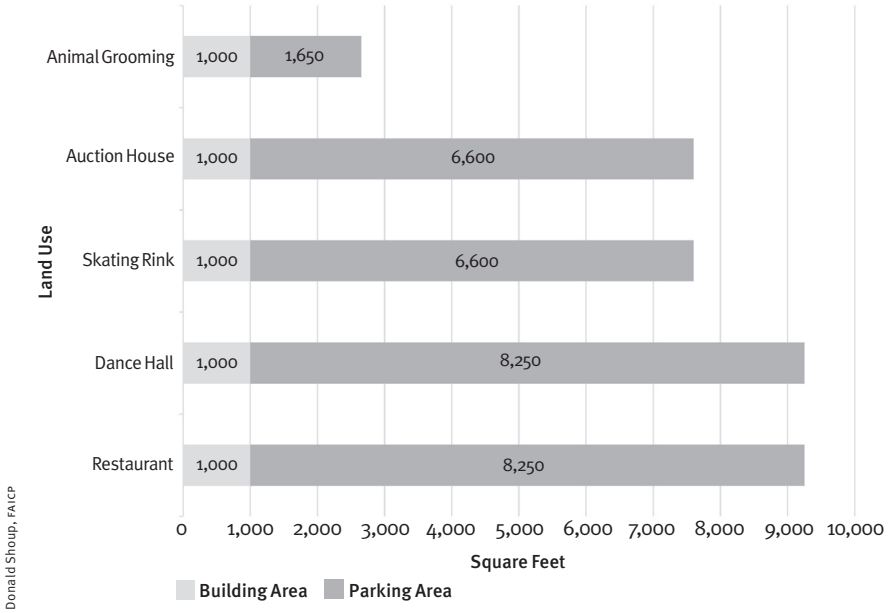


Figure 2. Required ratios of building-to-parking area for select uses in San Jose, California.

because all the cars drawn to the required parking spaces clog the roads. Los Angeles has more parking spaces per square mile and worse traffic congestion than any other city in the United States. Minimum parking requirements began as a solution but have become the problem, a disease masquerading as a cure.

If planners assume that every new resident will come with a car, they require developers to provide enough off-street parking to house all the cars. Ample free parking then ensures that most residents do want a car. Parking requirements thus result from a self-fulfilling prophecy. Parking requirements increase the number of cars, and planners then use the large number of cars to justify the need for higher parking requirements.

Planners often use "motivated reasoning" to justify the parking requirements required by elected officials who want enough parking to ensure that citizens won't yell about a shortage of free parking. Planners must then fashion arguments for conclusions already reached. Assumptions are the starting point of most parking requirements, and the person who makes the assumptions determines the outcome. Instead of reasoning about parking requirements, planners rationalize them and feign expertise they do not have.

When it comes to parking requirements, planners have used Pandora's box as their toolkit. These requirements result from complex political and economic forces, and planners are not in full control. But they do enable the pseudoscience, and the public bears the cost.

Every Sin Is Forgiven if It Is Done With Our Permission

When a city requires off-street parking, city officials have something to offer developers—a planning variance that reduces the parking requirement. The city can then allow a business to provide fewer than the required number of parking spaces because of special circumstances. Some planners may believe that minimum parking requirements are needed as a bargaining chip because they enable cities to reduce the parking requirements in exchange for community benefits, such as affordable housing. For example, California requires cities to reduce the parking requirements for residential developments that include a specific share of affordable housing units. Reducing parking requirements as an inducement to provide affordable housing shows how unnecessary the parking requirements are in the first place. Cities would never reduce the code requirements for safe electrical wiring or fire escapes in exchange for affordable housing units, but they can easily bargain away parking because it is obviously not necessary.

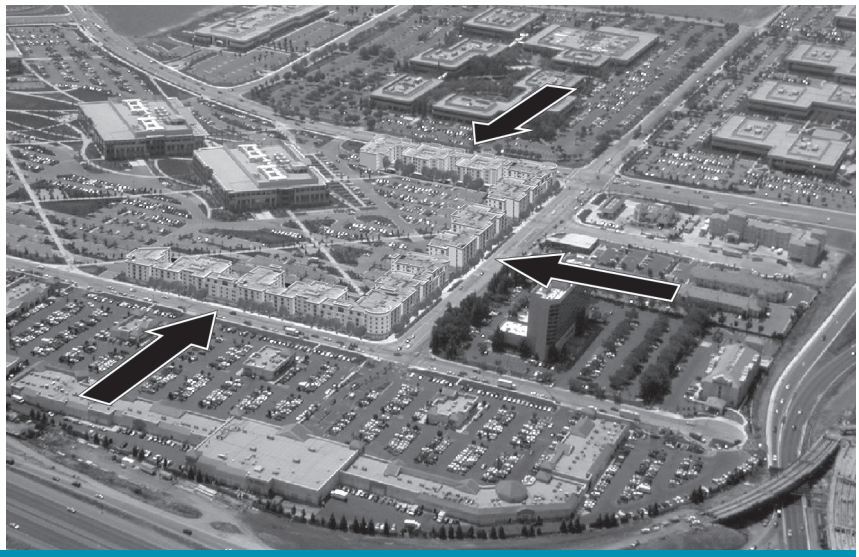
Just as the medieval Catholic Church sold indulgences for the remission of sins, cities can sell planning variances for the remission of parking requirements. In Dostoyevsky's *The Brothers Karamazov*, the Grand Inquisitor of Seville explained why the Church was popular even though it threatened Hell as the punishment for minor sins: "Every sin will be forgiven if it is done with our permission." Removing minimum parking requirements will remove the temptation to sell variances that allow sinfully few parking spaces.

How can cities remove their minimum parking requirements and still have the bargaining power the requirements provide? They can establish maximum parking limits and allow developers to provide more spaces if they pay a fee for every space they provide above the limit. I do not recommend establishing parking maximums to use as a bargaining tool with developers. Nevertheless, if cities want to use parking as a bargaining tool, it is much better to bargain from the starting point of maximum limits than of minimum requirements.

THE UPSIDE OF MINIMUM PARKING REQUIREMENTS

The upside of parking requirements is that removing them can do so much good. Figure 1 showed the asphalt desert created by excessive parking in Silicon Valley. What would happen if San Jose removed off-street parking requirements, charged demand-based prices for on-street parking, and used the resulting revenue to improve neighborhood public services? Property owners might decide their land is more valuable for housing than for parking. If a city wants more housing and less traffic, removing off-street parking requirements will help.

Everyone in Silicon Valley complains about expensive housing, long commutes, congested traffic, and polluted air. Building housing on the periphery of parking lots would help to solve all these problems. Figure 3 suggests what could happen if San Jose removed parking requirements and allowed housing on the periphery of



Stuart Cohen, TransForm

Figure 3. The same office park from Figure 1, digitally altered to illustrate how removing parking requirements could result in liner apartment buildings on previously developed sites.

parking lots. A parking lot can easily be redeveloped because it has a single owner, has no demolition costs, does not require new infrastructure, and is near both jobs and shopping. If apartment buildings fronted the sidewalks, anyone walking, biking, or driving by would see a real city. The smartest way to travel is to be near your destination already, and this job-adjacent housing would allow commuters to walk to work—a rare out-of-car experience.

The housing can be built without new parking because the existing spaces can be shared between office buildings and apartments. To avoid a parking shortage, the cost of parking will have to be separated from the rent for apartments and offices, so only drivers pay for parking. Residents who work in a nearby office building may find they can live with only one or even no car. They will have the option to rent an apartment without paying for two parking spaces, an option that parking requirements now forbid. The new housing cannot cause gentrification or displacement because no one lives on the parking lots now. Converting parking spaces into housing sites will also reduce traffic congestion because more people will walk, bike, carpool, or ride transit to their destinations. Oversized parking lots offer the possibility of something much better, but parking requirements prevent anything else. The asphalt landscape in too much of America is not walkable, beautiful, or sustainable, but it can be reformed and transformed.

Removing parking requirements can produce a cascade of benefits: shorter commutes, less traffic, a healthier economy, a cleaner environment, and more affordable housing. If we reform our misguided planning, vast parking lots can evolve into real communities. Economic objectives often conflict with environmental objectives, but parking reforms can serve both.

The money we now spend on cars and fuel can be spent on other things. Cars and fuel are often imported, but we cannot import apartment buildings. Spending less for cars, fuel, and parking and spending more for housing will increase the demand for labor in a host of professions, such as architects, carpenters, electricians, plumbers, and roofers. Importing fewer cars and hiring more people to build infill development will boost the whole economy.

Some critics argue that removing an off-street parking requirement amounts to "social engineering" and a "war on cars." Instead, off-street parking requirements are a war for cars. All the required parking spreads buildings apart so more people need cars to get around. Removing a requirement that restaurants provide 10 parking spaces per 1,000 square feet of floor area is no more a war on cars than removing a requirement that everyone must eat in restaurants 10 times a month would be a war on restaurants.

When it comes to off-street parking, I'm pro-choice. Cities should not require developers to provide unwanted parking spaces. Parking requirements were a bad idea, poorly executed, and they prevent many good results. Figure 3 shows that an upside of the mess we have made is an accidental land reserve available for job-adjacent housing. If cities remove their unwise parking requirements, we can reclaim land on a scale that will rival the Netherlands.

Cities have three good reasons to remove minimum parking requirements: We can't afford them, we don't need them, and they do immense harm. Wishing that parking requirements did not exist, however, is not a strategy for removing them. Parking requirements respond to a real problem, but they are the wrong solution. And cities cannot remove their parking requirements without also better managing on-street parking. If cities manage on-street parking properly, they won't need to require off-street parking. Information wants to be free, but parking wants to be paid for.

PROOF IT CAN BE DONE

When *The High Cost of Free Parking* was published, half the city planning profession thought I was crazy and the other half thought I was daydreaming. Since then, several cities—including Buffalo, New York; Hartford, Connecticut; Minneapolis, and San Francisco—have removed all parking requirements, and many others have removed their downtown requirements. Mexico City has converted its minimum parking requirements into maximum parking limits while leaving the numbers almost unchanged. What once seemed politically impossible may slowly become the new normal.

For example, in July 2019, Houston nearly doubled the size of its downtown off-street parking exemption area, redefining it as a "market-based parking area" (§26-471(b)(6) & §26-472). In this area, developers decide how much parking to provide, and at least one shopping center developer has already decided to provide a public plaza instead of more parking (DiMiceli 2019).

CONCLUSION

Assembling support for parking reform is like opening a combination lock: each small turn of the dial seems to achieve nothing, but when everything is in place the lock opens. Three reforms can open the parking combination lock: (1) remove off-street parking requirements, (2) charge market prices for on-street parking, and (3) spend the revenue for neighborhood public services.

Repealing off-street parking requirements and replacing them with market prices for on-street parking may at first glance seem a Herculean task, almost like Prohibition or the Reformation, too big an upheaval for society to accept. Nevertheless, this strategy should attract voters across a wide political spectrum. Conservatives will see that it reduces government regulations. Liberals will see that it increases public spending. Environmentalists will see that it reduces energy consumption, air pollution, and carbon emissions. Urban designers will see that it enables people to live at higher density without being overrun by cars. Developers will see that it reduces building costs. Residents will see that it improves their neighborhood public services. Drivers of all political stripes will see that it guarantees convenient curb parking. Elected officials will see that it depoliticizes parking, reduces traffic congestion, allows infill development, and provides public services without raising taxes. Finally, planners can devote less time to parking and more time to improving cities.

Repealing off-street parking requirements, charging the right prices for on-street parking, and using revenue to provide public services will improve cities, the economy, and the planet, one parking space at a time. Cities will look and work much better when prices, not planners and politicians, govern decisions about the number of parking spaces. Like the automobile itself, parking is a good servant but a bad master.

Note: This piece is adapted from the Introduction to *Parking and the City*, published by Routledge in 2018.

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DOES YOUR ZONING FOLLOW THE PSEUDOSCIENCE OF PARKING MINIMUMS?

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